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FIRE ENGINEERING

The Journal of the Fire Protection Profession Since 1877

Vol. 87, No. 3 MARCH, 1934 Member A.B.C. — A.B.P.

This Photograph of a Church Fire at Weston-Super-Mare, England, Taken Before the Fire Companies Arrived, Indicates Why Many Such Building Fires Result in Almost Total Losses

A copy of this cartoon, autographed by Ed Wynn, the Texaco Fire Chief, will be sent to you with the compliments of The Texas Company, makers of Texaco Fire Chief Gasoline. Please address your request to The Texas Company, Room 1803, 135 East 42nd Street, New York, N. Y. Be sure to indicate the room number.

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ASK any Fire Chief, Forester or Fire Warden who has used **INDIAN FIRE PUMPS** what he thinks of them and he'll say they're unequalled for forest, brush or grass fire fighting. Their value for quickly and easily extinguishing rubbish, awning, roof and spot fires with only pure water has likewise been proved many times over.

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EXTRA HEAVY TANK HAS SOLID BRASS BOTTOM. ALL JOINTS LOCKED AND SOLDERED. BUILT STRONG.
INDIAN

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FIRE ENGINEERING

The Journal of the Fire Protection Profession Since 1877

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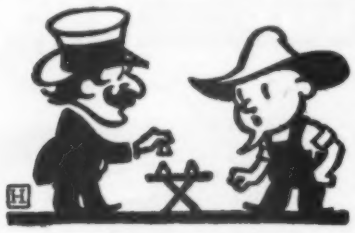

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• These fakirs come in two groups—one the plain crook who beats it with any money he can lay hands on, and the other, the high-pressure artist who leads you to believe he's taking your order for the magazine you want and then through a bit of sleight-of-hand work switches you to something else.

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The Publishers

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GOODYEAR

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"SPRINKLER WATCHMAN paid for Itself First Time It Called Fire Department" —Says Schenectady Hardware Merchant

EVERETT ZEH
SUPT. FIRE & POLICE TELEGRAPH

DEPARTMENT OF PUBLIC SAFETY
CITY OF SCHENECTADY
OFFICE OF THE
SUPT. OF FIRE AND POLICE TELEGRAPH

July 5th, 1938.

The Gamewell Company

Newton, Mass.

Gentlemen:

I am pleased to state that we had quite a unique experience here in Schenectady with one of the Sprinkler Watchman installations. Sunday morning during the Christmas Holidays, a call came in from the Clark Witbeck Co., wholesale hardware dealers. The master box, connected to the Central Office was tripped by leaky piping. The fire department arrived in time to force an entrance and shut off the water supply before much damage had been done, there being but two inches of water on the basement floor. Think of what might have resulted had our department not been called! Mr. Witbeck expressed himself as highly pleased, and said that it had paid for itself with that one experience. Incidently, the Underwriters told Mr. Witbeck that it would not be necessary to hire a watchman if this installation was made. It did not take much of an argument to sell him the idea.

At another location, a large wholesale grocery house, the architects insisted on this type of installation.

Very truly yours,

EVERETT ZEH.
Supt. Fire & Police Telegraph.

Everett Zeh, who has charge of the municipal fire alarm system at Schenectady, N. Y., sent us this latest story of the Gamewell SPRINKLER WATCHMAN's efficiency. What better evidence could anyone want on the value of connecting automatic sprinkler systems with the municipal fire department through a Gamewell master type fire alarm box!

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THE GAMEWELL COMPANY
Newton, Massachusetts
"A Box a Block"

FIRE ENGINEERING

The Journal of the Fire Protection Profession

Volume 87 MARCH, 1934 Number 3

With the Editor

Another Source of Hose Trouble

Most Fire Department members are well acquainted with the damaging results of battery acid and gasoline on fire hose. But few are aware of another source of trouble that is shortening the life of much hose: greases or oils forced through lines of hose.

It is the practice in many departments with certain types of fire pumps to insure the pump operating at suction, by forcing grease into the pump chamber. The purpose of this grease is to create a seal between the moving parts of the pump and the pump housing and thus enable the pump to lift water.

This practice is frequently overdone, and far more grease is delivered into the pump than necessary. It is essential that this grease be viscous, or thick, in order to accomplish its purpose effectively. This very viscosity is responsible for the injury done. The grease on being forced into the hose when the pump is started adheres to the rubber lining, and unless water is sent through the hose under high velocity for some time it is very likely that some of the grease will remain to carry on its destructive work on the rubber lining when the hose is placed back on the apparatus. It should be remembered that any petroleum base oils or greases quickly disintegrate rubber, and in the case of fire hose cause the rubber lining to blister and separate from the jacket.

Many Fire Departments upon arriving at a fire lay water lines and charge them as a routine operation, irrespective of whether or not water streams will be needed. The charging of these lines may require just enough pump operation to deliver the "priming" grease into the lines. The result is obvious. But what can be done to remedy the situation?

Abandoning the offending type of pump is not the answer, for this type has a distinct place in the fire service. Furthermore, many users of this type of pump have no hose trouble of the kind described above. The fault seems to lie with the men assigned to care of pumps and hose.

If it is absolutely necessary to employ large quantities of grease in the pump, then thorough washing out of the hose after use is vital. And the length next to the engine must have especial attention. Flushing with high velocity of flow is necessary. Even then all the grease may not be washed out and some harm may be done. However, the damage should be slight, and the trouble taken in removing as much of the grease as possible by flushing is more than paid for by the increased life of the hose.

The next time a length of hose is found with damaged lining, and it is certain that the trouble did not start from without, check over the methods employed by the pump men and by those responsible for the care of hose after use. The trouble may be found to be due to practices such as outlined above.

Fred. Sheppard

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Protection of Detroit Auto Plants

By CHIEF WALTER F. ISRAEL,
Fire Department,
Detroit, Mich.

Chief Walter F. Israel

IN Detroit we have approximately 146 automobile and body plants. Some of these plants are eight stories high, 2,170 feet long and cover an area of 71.8 acres. The most essential protection in case of fire is the education received by the officers and men previous to the fire.

Regular inspections are made to familiarize themselves with thousands of dollars worth of fire extinguishing equipment that has been installed. In making these inspections it is required of the firemen to make a sketch of the entire plant, showing the location of stairways and exits, hazards of which there are many; also gas shut-off valves, controls for shutting off electric current, sprinkler systems, gasoline and paint pumps; also fire-walls, windows leading into elevator shafts and all barriers that would retard the raising of ladders, etc., and also to see that good housekeeping conditions prevail.

Sketch is Checked by Blue-Prints

When this inspection is completed and he returns to his quarters, the fireman presents his sketch to his commanding officer. He and the Battalion Chief of the district, who have blue-prints of the plant, make a check to see that they correspond. If they find a difference, the fireman is sent back to the plant until it is rectified. Then they are satisfied he knows the building thoroughly. This inspection differs somewhat from the inspection made by the Fire Prevention Bureau, due to the fact that these are the men that are actually going to be present and work on the fire.

Another means of protection is to fight a supposed fire before it occurs, both at the engine house and at Training School. Here the men are questioned as to what they would do under certain circumstances. For example: they are asked "If a fire occurred in plant 5, of a certain plant, what class of work is done and what materials are carried in Department D. They are then asked the proper extinguishing agency to be used on that type of fire. If it is a Spraybooth where Pyroxylin paints and thinners are involved and has extended to vent ducts, which are large ventilating pipes conveying the fumes out to the atmosphere, in the upper part of the duct there is located an open sprinkler head which is controlled by an automatic valve which is always located in close proximity to the booth. There is also an automatic flood valve that floods the booth with water—water being the proper extinguishing agency for this type of fire.

Handling a Spray Booth Fire

When fire occurs in a spray booth, the flames are forced by the ventilating fan through ducts that extend through the plant several feet before passing through the outside wall, extending upward above the roof. There are often a battery of 12 in a row, only a few feet apart, and the electric fan that is ordinarily used to force the fumes through the duct to the outside atmosphere now forces the intense heat through the same duct, causing it to become a white heat. In a few seconds, naturally, the radiation is intense. However, this type of fire is usually easily extinguished, provided the fan is kept in operation.

After the fire in the booth and duct has been extinguished, due to the large amount of water used, it is apt to short the electric wires attached to the motor that drives the ventilating fan. Precaution must be used to examine all ducts where the radiation of heat may have caused it to start smoldering and in time will create gas and explode. With the ventilating fan system impaired, the fire will then follow the line of least resistance, which would be out through the open booth and would then extend throughout the plant. If the Fire Department should return to its quarters before this was determined, the entire plant would be enveloped.

A cleanout slide is located on the under-side of the ducts, when the fireman opens these slides to determine if they are smoldering, a long plaster-hook is used to pull the slide open. This precaution is used to protect him from being burned. As soon as this slide is opened and oxygen is admitted and comes in contact with the smoldering pyroxylin there usually is an explosion. After a reasonable length of time, if there is no reaction after opening the slide in the duct, it is safe to order the department back to their quarters.

Pyroxylin paint or lacquer is made with some form of nitrated cellulose and pyroxylin cotton commonly known as "gun cotton" base. When burning, the fumes arising are known as nitrate acid gas. When an explosion takes place, either with pyroxylin paint or celluloid, the fine fibres from the gun cotton, which nestles on the lungs of a human is very injurious and often fatal. Therefore, it is recommended where these fumes exist in a small enclosure that gas masks should be worn.

Teamwork Between Fire Department and Plant

It is very essential that proper teamwork and co-operation exists between the city Fire Department, plant fire department or watchman. For example, the fire is discovered and the alarm box is pulled for a certain plant. This plant consists of several buildings covering a large area which necessitates several gateways and driveways. The fire alarm box and annunciator is generally located in the main entrance. If the entire assignment responded to the main building where the annunciator is located to determine the location of the fire, there would follow a congestion of apparatus and a serious delay would result. In most large plants this would not happen, as the men on duty at the different gates of the plant are notified as to the location of the fire, which may be several blocks from the alarm box and an-

nunciator; thus the gateman would direct the apparatus by giving them the exact location of the fire. For example: "Building 5, Department, D." The officer must not only know the location of Buildings 5, but also Department D, which is on the fifth floor. He must also know the location of the nearest stairway and that the stairway extends to the fifth floor. With that knowledge, it is an easy matter to secure the nearest hydrant and know the required amount of line to reach the fire. If the building is sprinkled the first line is attached to the siamese connection, 100 lbs. pressure placed on it, and the second line stretched to the scene of the fire. If a standpipe is available, two lengths of hose, 50 feet long, rolled especially to make it convenient to connect to the standpipe, would be carried to the fourth floor. It is our practice to make the connection on the floor below the fire, so that in case we are forced to retreat, it can be done without sacrificing the hose and gives us a chance to regain lost ground as soon as the opportunity presents itself.

(From a paper read before the Annual Convention of the International Association of Fire Chiefs.)

LIFE AND PROPERTY HAZARDS OF A NEWLY SETTLED MINING TOWN

Seasons in Which Forest Fire Hazard Is Acute—Muskeg and a Powder Magazine Dangers—Hazards Within the Town Limits

By Chief R. Mathieson
Fire Department, Kirkland Lake, Ont., Can.

WHEN the mines of the district came into production, the Township of Teck, Ont., Canada, was organized and the task of forming by-laws to effect better construction started. At this time the Northern Ontario Light and Power Company was called upon to supply electrical power to the mines and electric lighting to the town. The houses were wired in roughshod fashion. This brought the inspectors of the Hydro-Electric, which effected many changes in eliminating many fire hazards in the home, such as loose joints, inferior wiring and over-fusing of systems.

Seasons of Forest Fire Hazard

All the time that this was going on people were living in fear of a conflagration from the bush hazard. Steps had to be taken to cut the forest back in the outskirts of the town. In my opinion, the forest is not an all season hazard. There is a period in the spring from about the first of May to the first of June that it is possible for fire to burn rapidly in the bush and cause considerable damage if not checked. Around the first of June the green foliage is out and fire would only travel slowly, another period is in the fall, from the middle of September till snow flies which usually is in the month of October. In my opinion it is not essential that the bush should burn, if the people who get their living from the forest would exercise fire prevention and pile and destroy their brush at the proper time. In the spring of 1933 the Township of Teck piled and destroyed some 600 acres of slash without destroying any timber or alarming the residents of the town.

Muskeg and the Powder Magazine Other Hazards

Muskeg is a greater fire hazard than standing timber as it burns from underneath and gives off little or no smoke, depending entirely on its depth. I have seen thousands of gallons of water pumped into an area of about 50 feet square and much to your surprise the fire would break out again in the very same spot.

Powder magazines are another hazard from the explosive point of view, feared by Fire Departments in mining areas; although every precaution is taken by the companies in fire prevention it still leaves a menace to public life. So much for the outside hazard.

Hazards in the Town Limits

Within the town itself the hazards are similar to any other town or city, chimney fires being the prevailing danger. In this connection, the township of Teck employs two chimney sweeps, whose duties start September 1 and end on May 1. At one time these men were paid by the tenant, which plan proved to be unsatisfactory. For instance, one tenant found it a hardship and the next tenant could pay. Today the service is paid for in the general tax rate and all chimneys are swept, which reduces the fire calls considerably. Costs in this connection work out to about 32 cents a chimney.

Timber Yard Greatest Hazard

Surface mine hazards are similar to hazards found in most industrial plants. In my opinion, the greatest hazard at the mines is the timber yard, which is usually stocked with huge piles of lagging and stulls, for use in the underground workings. These yards are usually off by themselves and not near buildings, but contain from three to four hundred thousand pieces of timber. Coupled with them is the pine bug, which leaves behind it an individual fire hazard of sawdust. To overcome this it is necessary to keep water sprays on the piles during the summer months.

Mills are large structures covering vast areas. The newer types are steel frames covered with wood sheeting, with fire resistive covering. These structures are subject mostly to electrical fires but burn very rapidly. I had the misfortune to have one of these structures burn down in 25 minutes and if you had seen it before the fire you would say that it was impossible, owing to the wetness of the interior. In this case the fire was attributed to an electric concentrate dryer.

Dangers from Shafthouses or Headframes

Shaft houses or headframes are tall structures ranging from 100 to 140 feet in height. One of the hazards occur at the chev wheels in the form of grease, deposited there by the fast running cables that descend into the mine. It is most essential that the cables and chev wheels be protected at all costs in the event of fire, so that the miners can be brought up at the first sign of danger. In most cases these are protected by means of a dry pipe sprinkler. Another prevailing hazard is caused by the waterproofing of tents and other prospectors' equipment. Two months ago a resident of this town undertook to waterproof a tent. After applying the waterproofing of linseed oil, he carefully rolled it up and placed it in the back yard. Returning from a fire at 3 a.m., he went out to see the tent and discovered that it was quite warm. The instant he started to unfold it, it burst into flames and was destroyed.

(Excerpts from a paper read before the annual convention of the Dominion Association of Fire Chiefs.

Chief Vose of Cambridge, Mass., Honored

A testimonial dinner to Chief Cutler L. Vose, of the Cambridge Fire Department, was held at the Continental Hotel, Cambridge, Mass., on February 15. Eugene Richardson was Chairman of the Committee of Arrangements and Major Judson Hannigan acted as toastmaster. Chief Vose was presented with a pure. Among the guests were Chief Daniel B. Tierney, of Arlington, President of the New England Association of Fire Chiefs; Chief William H. Hill, of Belmont; and Deputy Chief Horace W. Hutchins, Jr.

HARRY BELKNAP.

A Two-Chief Town

Two Chiefs rule the destinies of the Fire Department at Versailles, Ohio, and the plan, it is claimed, has worked out satisfactorily.

In 1928 a community fire-fighting company was organized in a nearby town. Funds were raised to purchase apparatus and a Chief was elected. In order that the town of Versailles might benefit from this organization's services, all members were appointed regular village firemen.

When the new Mayor assumed office, he complicated matters by naming a Chief of the combined department. Matters were adjusted by retaining the two Chiefs, one who will serve only during rural fires and the other at fires within the corporate limits.

Hillsdale, Ill., has reduced the 1933 fire loss to 8 cents per capita. Several years ago this figure was $12.50 per capita.

How to Organize a Volunteer Department

By CHIEF ROBERT JOHNSON,
Fire Department,
Lafayette, Col.

THE subject of the Volunteer Fire Department organization and conduct is one of wide scope and is likely to cause differences of opinion. While the following are my own ideas, they are merely suggestive and not concrete.

It is the first duty of any community to form the organization of a township and proceed with the election of a set of officials. One of the first duties of the newly elected city officials is to look to the creation of a water system and a Fire Department.

In the matter of a water system, I advise that officials give this deep study and before the plans are formulated it is advisable to call upon the Board of Fire Underwriters, who will, upon request, send an engineer from their office to survey the town and advise upon the water supply requirements. This engineer will inform what size plant will be needed, the capacity of the mains, placement of fire hydrants and any other data necessary to create a water system that will be adequate to future needs.

This engineer will advise upon the requirements necessary for the purchase of fire department equipment, and will, in all probability, recommend either a combination wagon or pumper, according to the pressure of the water system attainable for the district.

We have found that a number of towns have built their water system and then called in the engineers from the Underwriters to make the necessary survey for fire insurance rates, only to find that their water system was not of the proper construction and capacity to give them the hoped-for insurance rates.

Suggested Fire Station

The Town Council should cause to be erected a building for Fire Department requirements, which should contain a room suitable for the storage of a fire truck, a room for meeting and club room purposes, and at least one sleeping room that will accommodate not less than two men. Fire apparatus should never under any consideration be stored in public garages or in any other place where there might be fire hazard, as the danger of fire to equipment is great and in case of fire in the building would seriously handicap the efficiency of the department.

Adequate provision should be made for a fire alarm system; there should be two systems in every town, if possible; the telephone system and one Gamewell Fire Alarm box system properly distributed about the town.

Hose and Ladder Equipment

The Council should take the necessary steps for the purchase of enough 2½-inch fire hose to lay out two lines from the two nearest fire plugs to the seat of a possible fire in the business district. There should be several hundred feet of extra hose kept at headquarters in case of emergency. I recommend that at last one-seventh of the total footage should be supplied each year for replacement, this because we find that the smaller towns do not purchase the best grade of hose and the life of fire hose is about seven years. I believe this stagger system of purchase to be best, as it relieves the burden on the city of a complete new purchase of hose at one time, which might come when funds are low.

The town should also see to the purchase of the proper ladder equipment necessary to properly handle the work of the department. In small towns at least one 35-foot extension ladder, two 20-foot wall ladders and one 14-foot extension ladder. This equipment should be standard fire department ladders. This ladder equipment does not include a combination roof ladder, which is usually included in the purchase of apparatus. Some provision should be made for the transportation of these ladders, either by a small truck or a trailer.

Fire Apparatus

The smaller towns are purchasing combination fire wagons, and are doing away with the chemicals used in the past, and replacing with booster pump and tank. One advantage in this is that in answering rural alarms, the tank may be drained of water and refilled at the destination, therefore lightening the load. Most tanks are of 200-gallon capacity, and since water weighs 8⅓ pounds per gallon, this means 1,600 pounds less weight in transportation.

In towns with less than 60 pounds pressure and adequate volume the purchase of a pumper of 350-gallon capacity is necessary, and a 500-gallon capacity is preferable. When apparatus is equipped with booster pumper tank there should be supplied about 200 feet of 1½-inch hose with shutoff nozzle.

The Council should pass the National Board of Underwriters building code covering buildings and electrical installations, and provide for their inspection by competent men.

Organization of Fire Department

An ordinance should be passed authorizing the organization of a Fire Department composed of a Chief and the necessary number of men, and giving the Chief proper authority to conduct the department and also authority to make all fire inspections.

It is my opinion that the first Fire Chief should be selected by the Mayor and confirmed by the City Council. A man should be sought for Chief who has had some experience along this line and who will be able to perfect the organization of the Fire Department. The term of office of the officers of the departmnt should be governed by the by-laws of the department, and I believe that they should be elected from the department each year. The department will need, besides the Chief, an Assistant Chief, a captain and a lieutenant for each company and a live-wire Secretary and Treasurer.

A department for a town of 500 population should consist of 20 men, and one of 1,000 population should have 30 men, and if the town be situated near a large city it will be necessary to have at least a one-third increase in the department, owing to the men working within the city and not being able to answer calls from the Fire Department.

Two-thirds of the department should be young men,

who will form the working basis of the department, and the other one-third should be older men who will act as a balance for the department. I believe some of the older men should be influential business men and city officials, who will understand the needs of the department and work with it in securing these needs.

I believe there should be an enlistment limit to a department and in my town we have a five-year enlistment with no reenlistments, which gives us the younger men always and still retains on our honorary list the older men who have had experience and who can be relied upon to help out in an emergency.

Rules and Regulations

Every department will need rules and regulations by which it will be governed, and I venture to offer a few for the information and consideration of Fire Departments: The following rules have been provided and approved by the officers and members of the Kentucky Firemen's Association, and I am much indebted to them for their assistance in compiling the following:

PREAMBLE

The members of.....Fire Department in order to maintain a perfect union among themselves, establish discipline, define duty and promote the objects for which they are associated, do adopt the following code of laws for the government of this company.

ARTICLE I

Section 1. This company shall be known as.....Fire Department.

Sec. 2. This company shall consist of.....men.

ARTICLE II

The officers of this company shall consist of: Chief, First Assistant Chief, Second Assistant Chief, Secretary, Treasurer.

ARTICLE III

COMMITTEES

This company shall have the following committees, each composed of six (6) members to be appointed by the Chief as soon after the annual meeting as is practical. All committees to serve for one year.

GENERAL COMMITTEE

It shall be the duty of this committee to inquire rigidly into the character and competency of all persons making application to the company for active membership and report on the same in writing in the order in which they are received. It shall also be the duty of this committee to examine the books and accounts of the Secretary and Treasurer annually or whenever directed by the Chief and report on the same at the following meeting; also to examine and report at a subsequent meeting, or at the meeting then convened, all bills which the company may refer to it. It shall in connection with the Chief, cancel orders delivered to it by the Treasurer annually, and see that the same are properly filed with the Secretary. It shall also take a true and complete inventory of all company property immediately after appointment by the Chief, a copy of which shall be immediately thereafter submitted to the Mechanical and Electrical committee. This committee shall also prepare all amendments to the By-Laws, resolutions and advertising matter for all hose company events.

ENTERTAINMENT AND SOCIAL COMMITTEE

This committee shall take charge of all social affairs of the company; arrange the program for the Christmas Party and arrange for the Hose Company Carnival and all other events of the company.

MECHANICAL AND ELECTRICAL COMMITTEE

This committee shall have charge of all company apparatus; maintain the alarm system at all times; recommend the purchase of new equipment when needed; report at the following meeting any misuse of the company property and investigate and report the applicability of all new apparatus suggested for the company.

FIRE INVESTIGATION AND INSPECTION COMMITTEE

This committee shall investigate the causes of all fires, estimate the amount of damage caused, amount of insurance covering the damaged property, the name or names of the owners, the address of the property and of the owner and keep an up-to-date report of all fires; check reports of fire hazards and report to the company; keep a record of the time of all fires, the time the apparatus responded to the alarm and the time of return and the number of members present at each fire; attend as many public gatherings in the town as possible and be on the alert to prevent fires at all times; make fire inspection as provided by the ordinance of the town.

FINANCE COMMITTEE

This committee shall prepare a budget of the expected expenses and income of the company for the ensuing year, a copy of which shall be presented to the Town Board upon request by that body; it also shall apportion each month the amount of money to be deposited in each fund by the Treasurer; this committee shall be responsible to the company for the financial standing of the company at all times.

CHIEF

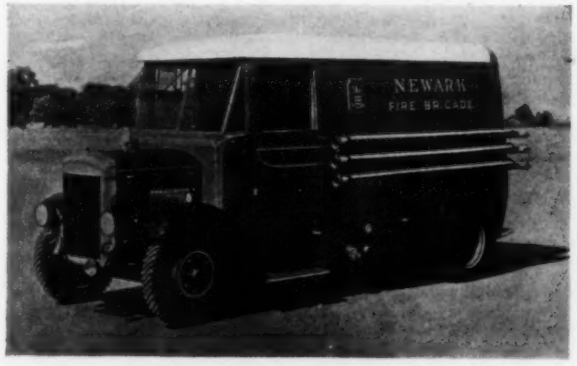
Section 1. The Chief shall be at the head of the department, subject to the state laws, the ordinances of this city, and the rules and regulations herein adopted. He shall be held responsible for the good order and efficiency of the department.

Sec. 2. It shall be his daily duty to examine the condition of the fire station, apparatus, hose and all other property of the department. In this connection he shall keep or cause to be kept in a permanent, accurate and neat form, records of the extent, nature and cause of fires, the amount of hose laid, apparatus used and the names of members attending. He shall also keep or cause to be kept an up-to-date record of all Fire Department property, and of supplies purchased, payrolls, and of all fire prevention inspections of buildings and their premises, fire hydrants, etc., and of schools and drills held and the names of members attending.

Sec. 3. The fire alarm signals shall be such as prescribed by the Fire Chief and it shall be his duty to test or have tested at a regularly designated time each day, the fire alarm system and to see that it is working properly.

Sec. 4. He shall inspect or cause to be inspected by members of the Fire Department, the fire hydrants and cisterns every three months, and, during the spring and fall inspection of each year, hydrants shall be flushed and oiled and fire cisterns examined, overflowed, and left full. During freezing weather cistern caps shall be salted and fire hydrant barrels examined to see that the latter are kept dry. Defective conditions shall be immediately reported to the proper authority.

Sec. 5. He shall thoroughly instruct and drill all members of the department at least monthly in the use of apparatus and equipment, in addition he shall also hold one or more meetings a month for the purpose of discussing fire prevention and fire fighting methods, state laws and ordinances,



Covered Fire Apparatus Made in England

A covered type of fire apparatus was manufactured by Merryweather & Sons, England, for Newark-on-Trent. It has seats in the front for driver and officer. On the inside are two seats placed lengthwise. The seats are provided with lockers for hose, tools, first aid outfit, etc. Where the running boards would normally be placed are two additional lockers. A door is provided on each side of the driver's seat, but the rear of the body is open. The roof is streamlined shape, six feet high above the floor. In the center of the chassis is fitted a 165 g.p.m. pump.

inspection of buildings by the entire department and life saving. The chief shall also familiarize himself and instruct all members as to conditions in the waterworks system, its possibilities, location and sizes of water mains, fire hydrants and other water supplies, and such other business in the line of duty. In this connection he shall cause to be safely and neatly filed publications, maps, etc., on fire prevention and protection and such other educational literature provided the department and to make use of it to the best advantage of all members.

Sec. 6. He shall attend all fires, when not providentially hindered or excused by proper authority and direct the officers and members in the performance of their duties.

Sec. 7. He may in his judgment suspend members from duty and shall make a report of such action to the proper authorities as soon as practicable thereafter.

Sec. 8. He shall report any officer or member of the department who for reason of age, disease, accident or other incompetence does not properly perform his duty.

Sec. 9. It shall be the duty of an Assistant Chief when so appointed, to yield ready and implicit obedience to all orders from his superiors, to familiarize himself with the rules and regulations of the Fire Department and compel all members under his command to do likewise. It shall be his duty to closely superintend the department under his charge and to do everything in his power for the best interests of the Fire Department.

Sec. 10. In the absence of the chief the assistant chief shall command the department, in his absence the senior captain, in the absence of a captain, the senior lieutenant shall command.

Captains

Section 1. A captain shall command his company and the first captain to arrive at a fire shall exercise command until the arrival of his superior officer.

Sec. 2. They shall preserve the discipline of their respective companies and instruct the members concerning their duties and see that each member knows the location, name and use of each piece of equipment.

Sec. 3. They must inspect all equipment, regularly and frequently with the driver or engineer and see that all of the equipment is clean, placed in its proper position and ready for service on the apparatus. In this connection once each month they shall make a report to the Chief on the condition of the apparatus, hose and other equipment under their charge.

Lieutenants

Section 1. A lieutenant shall, in the absence of his captain, exercise the same duties and have the same powers as devolve upon the captain. At all other times he shall perform such duties as the captain may direct.

Engineers and Drivers

Section 1. Engineers and drivers must inspect their apparatus frequently and always after each run, also check the oil, gas, battery, water, and tires, and keep a record of the time in pumping and pressures maintained and make their report to the captain.

Sec. 2. Equipment found broken or needing attention as to minor repairs and adjustments shall be taken care of if possible by the engineers and drivers.

Sec. 3. The cleanliness of the apparatus, motor and pump is most strenuously insisted upon and after returning from fires the apparatus must be rinsed off before backing it into the station.

Sec. 4. When driving apparatus speed limits shall be such as are consistent with safety, considering traffic, weather and road conditions. Special care shall always be taken upon approach to all intersections, the apparatus kept under control and ready to stop. Violations of this rule shall be held as reckless driving and punishable by dismissal and liability for damages incurred. Should an accident occur the officer in charge will be held as responsible and the testimony of reliable eye witnesses, if any, taken to fix the blame. In the absence of an officer the driver is solely responsible for his apparatus. In any event, the driver's testimony shall be considered before fixing the blame.

Members

Section 1. It shall be the duty of all members while on duty to give strict obedience to the lawful orders of the officers duly elected and appointed over them and under no consideration shall any attention be given to the orders, suggestions and criticisms of unauthorized persons.

Sec. 2. On alarm of fire, members in the neighborhood of the fire station shall promptly respond with the apparatus, others shall respond for service by the best possible route.

Sec. 3. All members must assist in the work of the department, whether it may be their assigned duties or not, and in the absence of any specific orders or apparent work to be done they shall report to the officer in charge of their company.

Sec. 4. At fires and drills when the work at hand is completed, all working tools and equipment shall be replaced in its proper position by its assigned members. After same is done all members shall help uncouple the water lines if laid and wet, roll up each section, and load on apparatus.

Sec. 5. No one not a member of the department unless authorized by the Chief shall be allowed to ride on the apparatus or to handle equipment. Each member is charged with the enforcement of this rule.

Sec. 6. The officer in charge shall ride on the seat at the side of the driver, ladderman on top of seat at the side of driver, the pipemen on the rear running boards, and all others on top of the apparatus. No member is permitted to ride on the side running boards, except with the permission of the Chief.

Sec. 7. The regular meetings and drills of this department shall be held at such regular time and place as may be directed by the chief. All members must attend. Any member absent from three successive meetings without permission shall be dropped from the roll.

At these drills the Chief or other officer in charge shall arrange and conduct such appropriate instructions as to increase the efficiency of the department. However at no time shall instruction periods spent be less in total than four hours per month.

Sec. 8. Fire prevention being one of the most important functions of the Fire Department, all members shall study and learn the State Standards of Safety, be at all times on the alert for fire hazards and take steps to have them removed.

Sec. 9. The fire station and all appurtenances and the premises in general shall be kept clean, orderly and in a sanitary condition. Every member of the department shall be held individually responsible for any act or negligence on his part which may contribute toward the violation of this rule.

Sec. 10. All members shall learn to fold and spread salvage covers and to use them to advantage on orders from the officer in charge, and after all fires, where possible, the premises shall be cleaned up and left in as orderly and safe condition as possible. When roofs are damaged and subjecting building contents to weather, temporary covering shall be provided until repairs are made.

Sec. 11. Each member shall keep his fire helmet, coat, hose hook and spanner, secured on the apparatus near the place where he rides. Boots shall be kept at home or in the fire station bedroom made up into "Night Turn Outs."

All members are responsible for their fire clothing and tools and when resigning shall return all Fire Department property in their possession to the Fire Chief.

Sec. 12. All members shall notify the chief when sick or when desiring to be excused from duty, and no member shall be permitted to leave a fire for any reason unless excused by the officer in command. Wandering around the fire grounds and engaging in unnecessary conversations with others will not be tolerated.

Sec. 13. Any member of the department may be dropped from the roll for any of the following offenses, to wit:

1. Intoxication.
2. Any act of insubordination.
3. Any act of oppression or tyranny.
4. Neglect of duty.
5. Neglect or disobedience of orders.
6. Absence from fire or drills without permission.
7. Immoral conduct.
8. Conduct unbecoming a gentleman.
9. Any violation of the rules and regulations governing the department.

Company Rules

Section 1. For the purpose of teamwork and efficiency in handling the apparatus, all working tools and equipment, the Chief shall cause each captain to number and assign each member of his company to specified duties. In volunteer companies the company shall be divided in a suitable man-

ner into the ladderman, pipeman, fire marshals, and engineers' or drivers' details respectively.

Sec. 2. Duties of Ladderman: The captain acts as the number one ladderman in charge of this detail, in his absence the number two ladderman, etc.

The duty of the ladderman shall be to quickly remove the axes, plaster hook and necessary ladders from the apparatus, carry them to the building and to use them there as directed. In a single engine company when a water line is ordered laid from the fire to a hydrant or cistern, all laddermen's tools must be unloaded and laid at the curb nearest the fire before the apparatus leaves to connect for suction.

General duties of laddermen at fires shall be to make speedy rescues, raise ladders, ventilate burning buildings and open same for pipemen. When doing such work care should be taken that no unnecessary damage be done.

The laddermen shall keep their ladders and working tools clean, bright spots polished, working parts oiled and when assigned to hose and ladder carrying apparatus shall clean and polish that side of the apparatus upon which most of the ladders are mounted.

Sec. 3. Duties of Pipemen: The lieutenant acts as the number one pipeman in this detail, in his absence the number two pipeman, etc.

The general duties of a pipeman are to handle the small chemicals, the chemical and booster line and water lines, and to extinguish fire with the minimum amount of water damage. At fires in buildings the line shall be advanced into the burning building, if possible, and with the nozzle shut off and shall not be opened until actual fire is seen. When the main body of fire is extinguished, shut off the nozzle and clean up the balance with a section of small hose or a small tip on the shut-off nozzle.

When laying out a water line from a hydrant to fire as with a hose company, the highest numbered pipeman present pulls off one section of hose and wrench, connects hydrant and stands on the alert for the signal for water. After starting the water he will immediately report at the nozzle and straighten out any kinks in the hose on the way.

The apparatus arriving at the fire, after laying in from a hydrant, pull off hose enough to reach the fire with one section over, and when pulling it off, pull off in long section loops and do not pile in the street.

When laying a water line from the fire to a hydrant or cistern, as with an engine company, the lieutenant and the lowest numbered pipeman pull off hose enough to reach the fire as mentioned above for hose companies, (during this time if only a single engine company is in service, the laddermen's tools are unloaded) and as the apparatus pulls away the two highest numbered pipemen present, or in their absence others who may be ordered, shall always ride with it and connect for suction. After connections are made and the water started, they report at the nozzle and on the way straighten out any kinks in the hose line.

The selection of the proper size nozzle tips shall be governed as follows for single lines:

On a short line up to 400 feet, connect a 1¼-inch nozzle.

On a medium line up to 800 feet, connect a 1⅛-inch nozzle.

When a line is divided at a fire on a medium or long lay, connect two ¾-inch or smaller tips.

For nozzle sizes of 1⅜ to 1⅝ two lines siamesed shall be used.

The pipemen shall keep their couplings, nozzles and fittings and chemical booster tanks clean and charged, all bright parts polished, and shall see that all working parts operate easily and properly; they shall clean and polish the side of the apparatus opposite the laddermen.

Sec. 4. Duties of Engineers and Drivers: Number one, the chief engineer, is in charge in his absence, number two, etc.

On alarm of fire the first engineer reaching the apparatus will drive to the fire, but shall not depart until one officer and two members are ready to go with him. Arriving at the fire he will operate the pump or chemical tank valves or lay out such water line as may be ordered by the officer in charge.

Working pressures: When working the pumper on a water line, engine pressure shall be figured starting from the nozzle end of the line as per following rule:

For a ¾-inch nozzle pump pressure equals 50 lbs. for each 100 ft. of hose in the line.

For a 1-inch nozzle pump pressure equals 50 lbs. plus 10 lbs. for each 100 ft. of hose in line.

For 1⅛-inch nozzle pump pressure equals 50 lbs. plus 17 lbs. for each 100 ft. of hose in the line.

For 1¼-inch nozzle pump pressure equals 50 lbs. plus 25 lbs. for each 100 ft. of hose in the line.

Should several lines be connected to the pump the proper pressure shall be figured on the longest line and the discharge gate cramped to a degree on the shorter line to give the approximate nozzle pressure of 50 lbs.

When a line is divided at a fire through a Y connection, pump pressures shall be figured as for a one and one-eighth-inch nozzle on a single line.

For each 10 feet the nozzle is above the pumper add 5 lbs. to the pressure for each ten feet the nozzle is below the pumper, subtract this amount.

If larger nozzles are used, and lines siamesed, pump pressure is figured on one line only in the layout as follows:

For a 1⅜-inch nozzle pump pressure equals 60 lbs. plus 10 lbs. for each 100 ft. of hose in one line.

For a 1½-inch nozzle pump pressure equals 60 lbs. plus 15 lbs. for each 100 ft. of hose in one line.

For a 1⅝-inch nozzle pump pressure equals 60 lbs. plus 20 lbs. for each 100 ft. of hose in one line.

If more or less pressure is called for 20 pounds increase or decrease shall be given unless a specified amount is called for by the officer in charge.

Care shall always be taken by the engineer that he will not try to operate his pump at a greater capacity or pressure than that for which designed. Should the water supply be not enough or the hose layout connected in such a manner that the proper pressure cannot be maintained the attention of the officer in charge shall be called and the nozzle tips reduced or a better water supply obtained.

Particular attention and study shall be given the instruction manual sent with the apparatus by the manufacturer and that oil is changed when necessray, and other details of caring for the apparatus as a whole are given the proper attention.

At fires or drills those engineers not actually driving or operating the pump will ride on top of the apparatus and shall act as extra pipemen or laddermen as may be ordered by the officer in charge. Drivers of hose, ladder, or chemical apparatus shall act as extra pipemen or laddermen on arrival at fires, as the case may be.

When taking up at fires or drills the engineers and drivers shall check all equipment back on the apparatus and see that none is lost or left.

Sec. 5. Duties of Fire Marshals: The fire marshal and his deputies shall compose this detail. In the absence of the chief fire marshal the next ranking deputy in numerical order shall be in charge.

The general duties of the fire marshals shall be, on alarm, of fire, to proceed to the scene of the fire in the most quick and direct route. Arriving they shall take charge of the fire scene, prevent interference with the department, driving over hose, etc. Should furnishings and merchandise be removed from buildings they shall see that it is placed safely, covered if possible, and allow no unauthorized persons to molest such materials.

After the fire is extinguished, they shall see that the building is secured, and the proper owners or occupants left in charge. Should none be present a guard should be secured to watch the premises.

In case of suspicion or incendiary fires, they shall, working in conjunction with the Police Department immediately secure all evidence possible relating to cause of the fire, such as the plant itself if possible, photos of actual conditions found upon extinguishing the fire, names of persons connected with the case, etc. This evidence should then be carefully preserved for future use in the case.

(From a paper read before the Third Annual Fire College of the Colorado State Firemen's Association.)

Ex-Chief H. F. Ferber of Scranton Dead

Henry F. Ferber, Chief of Fire Department, Scranton, Pa., from the volunteer firemen days in 1868 until he retired as head of the paid force in 1916, died at his home in Scranton after a long siege of ill health. He would have been eighty-one on April 1.

He was born in Pittston, Pa., on April 1, 1853. When the old volunteer force was organized in 1868, he became a member and he became Chief in 1876. Chief Ferber was also head of the department in 1882, 1883, 1884, 1893 and also from the time the paid force was established in 1901. He retired from active service in 1916.

Chief Ferber is survived by his widow and a son who is a retired Battalion Chief of the Scranton Fire Department, two daughters and a brother.

THE ROUND TABLE

For Practical Discussion of Current Fire Department and Fire Management Problems

BLOOD TRANSFUSIONS BY DEPARTMENT MEMBERS

EMERGENCY cases require immediate action. Time is then an important factor. The corrective measures performed at once are generally the ones which later prove to be the most effective. In some emergency cases it is necessary to supply blood, by transfusion, to make up for blood losses through skin punctures or hemorrhages, or through degeneration of the blood structure in the patient.

Since firemen must always be in the best possible physical condition and are examined at frequent intervals for organic trouble, they are considered as logical sources for blood transfusion operations. In some cities the blood of firemen has been catalogued according to type, and a list placed on file in the hospitals.

Opinion seems to be divided as to whether it is wise for firemen to perform this service. Some believe that where the patient can pay, it is well to give that source of income to medical students who count on such sources of revenue. Others state that if the firemen can add to their limited income, no obstacles should be placed in their way. The subject possesses unusual interest.

In the box on this page is the problem in full that is treated in this issue. In the box on the following page is the problem in full that will be considered in the next issue. Should you have some comments that you would like to add to the next discussion, you are invited to write to the "Round Table Editor," FIRE ENGINEERING, 24 W. 40th Street, New York, N. Y.

Discussion of the Question

Rod D. Gambrell, Chief, Dallas, Tex.: We have had every member of the fire department rated as to his blood type, either 1, 2, 3, or 4, and have a record in our office. They are listed under the type of blood they have.

I do not believe that firemen should be subject to call for transfusions when there are medical students or others who are depending on blood sales for school expenses or for other reason. Our members give blood for only two reasons: In cases of charity where we are assured by the doctor or the hospital that the patient has no funds, and that it is an emergency case; in cases of emergency where the hospital is unable to locate the particular type required from medical students or others, we send our men. We must be assured however by the hospital authorities that they have exhausted their lists. Our men do not receive any money for their blood, it being a charity act only.

The hospitals see to it that precautions are taken to prevent infection after a transfusion. In cases where an unusual amount of blood is given and the doctor suggests it, we relieve the donors from duty from 24 to 48 hours.

Henry H. Heitman, Chief, Waterbury, Conn.: We have on file a list of men willing to give blood transfusions, dated according to their particular type, as 2, 3 or 4, which seem to be the types we have in our department. Daytime calls are handled by myself or a clerk, while night calls are attended to by the night operator, a suitable type being sent to the hospital or doctor who called.

Your second question reminds me of an old saying that anything is fair in "war time." The individual responding to the transfusion call should know the financial circumstances of the case, and if it is possible for him to earn a few dollars to let him do so. Especially is this true during these depressing times.

No special attention is given firemen subject to blood-letting as I believe the doctors who make the transfusions see to it that the men are all right before allowing them to return to duty.

C. E. Swanson, Chief, Everett, Wash.: All members of the department have their blood classification listed with the hospitals. Whenever used for transfusion, members receive ten merit marks on their records.

I do not believe that firemen should be used for general call for selling their blood and we do not allow this general practice. However, our members are used in emergency cases when others may not be immediately available and for the destitute who may be unable to pay for this service. I firmly believe that others should be given the opportunity to sell their blood at standard rates, particularly at the present time when numerous worthy people could so readily use the remuneration they would receive. In conclusion to this question, I would sum up, by saying that this service as far as our department is concerned, is one only of emergency and pay to the members must be voluntary on the part of those receiving this service.

Members who have been subjected to blood-letting who show any weakening effects are given time off to regain their strength. One day has usually been sufficient for this purpose.

C. A. Delaney, Chief, Lakewood, Ohio: No organization is maintained among the members of our department for the purpose of answering calls for blood transfusions. However, the majority of our members have been typed and we maintain a record of such members and the type of their blood.

I do not believe that firemen should be subject to call for blood transfusions in an official capacity. The matter being one of personal service, I am of the opinion that it should be left to the individual to offer himself or decline as he sees fit. Firemen should not have to subject themselves to blood transfusions in cases where persons receiving same are in a position to pay for such service.

No special attention is given to firemen who have subjected themselves to

HERE IS THE PROBLEM

What organization, if any, do you have among the firemen so that calls for blood transfusion can be readily answered and with the proper type blood?

Do you believe that firemen should be subject to call for blood transfusions since medical students and others are willing to sell blood at standard rates?

Do you give firemen any special attention after they have been subjected to blood-letting, to prevent possible infection while working at fires?

blood transfusions, except that they are relieved from fire duty for one or two days.

A. E. Menn, Asst. Chief, Cleveland Heights, Ohio: In our department, thirty members are listed as donors of blood. These men have their blood tested about once a year and the report of the hospital making the test is turned over to the Fire Department. A list is then prepared showing the group to which each man belongs. Both the Moss and Jentsky blood test methods are employed so that when a call for blood is received a man of the proper group can be sent.

I do not believe firemen should be compelled to render this service but should be permitted to do so if they see fit. In many instances people are unable to pay for this service, and then again our job is one of saving lives so a life saved with blood is just as good as having saved one from fire. I am opposed to firemen placing themselves on hospital lists as professional donors, because it interferes with their regular work to which they have been assigned.

After a member of the department has given blood, he is placed on light duty, until after the clips have been removed from the arm and the incision healed over which usually takes about five days.

HERE IS THE PROBLEM FOR THE NEXT ISSUE

In what way do you cooperate with other organizations in your city in the conduct of spring clean-up campaigns?

Have these campaigns resulted in a decline, even if temporary, in the fire losses?

Can you suggest some effective plan for coordinating the customary house inspections by firemen with the municipal plan of spring clean-ups to eliminate many of the winter accumulations of rubbish in or about the homes?

W. N. Bates, Chief, Elyria, Ohio: There is no organization or understanding among members of the Elyria Fire Department in regard to blood transfusions.

Personally I do not believe firemen should be subject to call for these transfusions. In small, undermanned departments such as ours, calling men while on duty might work a serious handicap to the department. The only reasons I can see for using firemen are that they are generally physically fit and can be reached promptly. Some of our men have given blood transfusions, but we have no follow-up system as to their physical condition afterwards.

In my opinion the work of a fireman is of such importance to his community and the demand for his services are of such an extreme emergency type that he should be in the very best physical condition at all times. There are plenty of persons in other walks of life who are as acceptable for blood transfusions as firemen and whose regular occupations are not of the emergency type. The sooner the public realize this the better it will be for fire departments. A fireman earns his salary not only by giving efficient service but by keeping himself fit for that service at all times.

Considering the nature of their work, I am not in favor of firemen giving blood transfusions, except in a most urgent case.

Isaac M. Hubbard, Chief, Greenwich Center, Conn.: Members of fire and police units, also members of Volunteer Co. No. 2 and Amogerone Co. No. 1 are available for blood transfusion calls.

If the department is a volunteer one, members should be as much entitled to sell their blood as medical students or others if they so choose.

I do not approve of full time paid members of department selling their blood for transfusions unless no other person is available or the blood is required by a member of the family.

The hospital or doctor in charge of transfusion gives the firemen the necessary special attention and care needed.

J. E. Held, Chief, Alliance, Ohio.: All firemen of the city of Alliance have had blood tests made and a record of the different types are on file at the city hospital.

I do not believe in the use of a city fireman for general transfusions, but having had recent occasion for the use of a fireman within the department, it is my contention that the availability of the firemen should be used only for the saving of the life of a brother fireman or his family. Of course in the event of extreme emergency, it is only human that for the possible saving of another life, permission be granted to a fireman to submit to a blood transfusion for an outsider.

This department gives time off with full pay and all medical attention until in the doctors' opinion all danger of infection is past.

E. F. Reed, Chief, Middletown, Ohio: The members of this department are divided into two working units of twenty-four hours each. Men on each unit have been examined and listed for the required types and their names and types are listed at the City Hospital. In case of an emergency transfusion where loss of time may mean a loss of life, a man of the required type may be immediately secured by calling for the services of a department member at Fire Headquarters. Such a service is, however, not compulsory.

I believe that it is advisable for firemen to be typed and classified for blood transfusions in cases of extreme emergencies as they are available at all times.

To date no member of this department has been called for a blood transfusion so that I am unable to give definite information on this question. However, in the event that a department member is called upon to submit to a blood transfusion he would be relieved from duty until permitted to return by the physician who had performed the transfusion.

S. E. Hann, Chief, Coffeyville, Kan.: Our department has no organization of this kind, but this department is always ready to help save a life, be it from fire or for the want of a blood transfusion.

I do not myself believe that a fireman should be subject to call for a blood transfusion, but if he wishes to do so it should be at his own choosing.

The department has had only one case where it was called on for a transfusion, the call being answered willingly. It was found after several tests that the blood was not needed. In case one of our men submits to a transfusion he will certainly be given special attention to prevent the possibility of infection.

G. E. Renken, Chief, Laredo, Texas: We have no organization whatever for this purpose, but at least 85 per cent of the force who are sound and healthy and who are given periodical examinations by our physician (which are rigid in every detail), would be available for such a call.

We do not believe in this practice as this service renders a fireman unfit for duty for several days or weeks. Of course, should an occasion arise which meant life or death, no objection would be rendered to one of the men offering his services even though it cripples the department and creates an expense to the city.

Time is given for his complete cure with all possible special medical attention until fit for duty.

E. P. Welch, Chief, Columbus, Ohio: The Columbus fire department has no organization among the firemen with regard to call for blood transfusion. There is located in this city one of the largest medical universities in the country, and calls for blood transfusions are taken care of by medical students who wish to respond. However, in case of an emergency the department would not hesitate to call upon its members to volunteer, which would no doubt be met with a ready response

S. Ferguson, Chief, Fort Worth, Texas: About fifty of our men have volunteered for blood transfusion service. Their blood tests have been recorded, and they respond when called, especially for the poorer class of citizens.

Department members are not called for people who are able to pay for such a service.

We have had no trouble or infection from blood-letting so far. Our department physician takes care of the fireman if necessary. During 1933 Fire Department members responded to 36 such cases.

J. C. Van Hyning, Chief, Livingston, Mont.: We have no organization for taking care of blood transfusion calls. We have agreed however, that in an absolute emergency we would furnish blood provided we could provide the proper type.

Members of the department should not be subject to

calls for blood transfusions unless the person or persons are not in a position to obtain the necessary blood from other people or sources.

Firemen rendering such a service are assigned to station duty and placed under the care of a competent physician.

Fred J. Myers, Chief, Toledo, Ohio: We have no organization to take care of blood transfusion calls, but we ask the men if they care to volunteer for such a service. In nearly all cases a volunteer is secured.

We are strongly opposed to firemen giving blood transfusions except to members of the department or their immediate families. Professional blood sellers should be given the opportunity to sell their blood.

No special attention is given men who volunteer, outside the usual precautionary measures to prevent infection.

Joseph B. Shirk, Chief, Gary, Ind.: We do not have any special organization to take care of blood transfusion calls. Up until a short time ago the boys volunteered for anyone who requested such a service. But the demand became too great and now they are not permitted to do so except for other members of the department or their immediate families. The Fire Department was the only place people would call, so it had to be stopped.

Firemen should not be subject to calls for such service at any time, except as stated above, for other department members or their immediate families.

Men who volunteer for blood transfusions are given special medical attention and kept in bed at the hospital until over the effects and until they are pronounced okay.

Sydnor R. Carter, Chief, Evansville, Ind.: No organization of this nature has ever been discussed for our department.

In regards to firemen being subject to blood transfusion, I think this is a question of volunteering this service and not compelling the individual to do so. I have in my department many strong healthy young men who if the need came, I know would gladly donate blood needed to save life of the most humble without charge.

To prevent infection in case of injuries slight or otherwise, a first aid crew consisting of members of the department and a physician employed by the Board of Public Safety should treat all cases sent them without charge to the firemen.

S. D. O'Conor, Chief, Beaumont, Texas: It is purely a volunteer proposition with us, when giving blood for transfusions. We have had all the men typed and when there is a patient unable to pay for a transfusion one of the men volunteers for the job. We have given about thirty this past year. After a man gives one he is allowed two days off from duty.

A. S. Warren, Chief, Dodge City, Kan.: We have no organization among the firemen so that calls for blood transfusions can be answered. The only blood transfusions given are to brother firemen.

Although we have never had trouble with infection, we would certainly see that special attention would be given to the man if such should occur.

J. L. McClure, Chief, Wichita Falls, Tex.: Every fireman in our department is subject to call for blood transfusions. I believe that firemen should be subject to call for blood transfusions, but only for a limited amount. No special attention is given men other than by the doctors at the time of the letting.

John C. Moran, Chief, Hartford, Conn.: Firemen here have no organization for blood transfusions.

I do not believe that firemen should be subject to call for blood transfusions unless he volunteers to give his blood to help some relative or friend. At one time a few firemen in this department used to sell their blood for this purpose but this practice has been stopped.

George M. Loud, Ladderman, Whitman, Mass.: We have no organization of any kind among our firemen to answer a call for blood transfusion.

I believe there should be a list in the Fire Department of the men whose physical condition and blood test are up to standard. Then there would not be a very long delay, when called upon for their service.

A fireman who has been subject to a blood letting case, would be taken care of in the proper manner.

Richard Timmins, Chief, Beaver Falls, Pa.: We do not have any organization that we could call upon for blood transfusions.

I think that firemen should be ready and willing to share their blood with anyone in need of same. As to selling blood, anyone doing so would certainly not rank very highly in my estimation. I would gladly give blood to any unfortunate in such a condition as to need blood transfusions and as much as I could spare without "Blood Money." I would be thankful for being able to render such service.

If one of our men gave his blood I certainly would see that he had good care until all danger was past.

Ray H. Hare, Chief, Yakima, Wash.: Members of this department sometimes volunteer for blood transfusions. I do not think, however, that it should become a common practice. If it does, it will soon be considered just another one of the many duties of a fireman.

Members who volunteer are treated against infection by the attending physicians.

George Atchison, Chief, Miles City, Mont.: We have never had such a call in this Department. I know, however, in the case of an emergency anyone on the force would be willing to give blood, if the blood was the proper kind. However, I am not in favor of having firemen take the place of medical students who sell blood at a reasonable figure.

W. E. Twitty, Chief, Lubbock, Texas: We have furnished blood for a few cases, but we do not commercialize on it. We do not have men's blood tested for that purpose.

There is no objections to furnishing blood but men should be kept out of service for a few hours after the operation.

W. P. Payne, Chief, Spokane, Wash.: We have no professional blood donors within the ranks of our department. This is cared for in Spokane by the hospitals who have their own blood donors.

Firemen should be called upon for charity or for emergency work, and under no conditions should they receive money for blood transfusions. We are always willing to be of service.

If conditions presented themselves we would take all precautions, through our first aid department.

Lawrence E. Reif, Chief, New Haven, Conn.: We are called upon quite frequently on account of one of our engine houses being in close proximity to a hospital. I do not think that we should be called upon to give blood, only in an emergency case.

We do not give firemen any special care after blood transfusions, but would do so, if the case required it.

E. B. Hartwell, Chief, Houston, Tex.: We have no organization for this purpose, but ask for volunteers from both shifts, which usually brings from 10 to 20 men for that purpose. I do not believe firemen should be subject to call for blood transfusions but should be voluntary.

If firemen give blood they follow the doctor's orders as to rest and treatment.

J. J. Powell, Chief, Griffin, Ga.: I have no such organization for giving blood in our department. Though I think an organization of this kind would be a great benefit to the men.

A Fire Department, in my opinion, should be a family of brother firemen, and they should give their blood or do anything else for their brothers.

E. B. Larkins, Chief, Bradford, Pa.: We have no organization, but the hospital has a record of type of blood of all firemen. Firemen receive proper treatment at the hospital after transfusions.

* * *

ANSWER TO PREVIOUS QUESTION

The following reply was received in answer to a previous question on the salaries paid members of the Fire Department:

George Rosenberg, Chief, Alexandria, Ind.: The department consists of four regular men and ten volunteers, the chief is paid $100.10 per month, the regular men are paid $100 per month. Volunteers are paid $1.00 per hour when a line is laid and water is being discharged. We have no relief or pension fund. If the men wish to wear a uniform, they must purchase them themselves.

John J. Dorman, Formerly Fire Commissioner of New York City, has been appointed Director and Vice-President of the Modern Investment and Loan Corporation, New York City.

John C. Edge is Chief of the Dover, N. J., department. The other officers are Floyd S. Hann, First Assistant Chief; Horace B. Rickley, Second Assistant; Charles E. Parker, Third Assistant.

Questions and Answers

NOTE—Readers are invited to send in questions, which will be answered in the order received. Names are omitted from questions unless otherwise specified

Nozzle Pressure in Siamesed Layout

To the Editor:

Would you be kind enough to solve the problem which I place below:

Problem: 2 second size engines are pumping into a deck pipe.

Engine No. 1 has engine pressure of 160 pounds and pumps through 200 feet of 3-inch hose into the deck pipe.

Engine No. 2 has engine pressure of 200 pounds and pumps through 400 feet of 3-inch hose into same deck pipe. Deck pipe has a 1½-inch tip. What is the nozzle pressure? W. H. G.

Answer: The type of problem you set forth is one which can only be solved by averaging, which is certainly not a very accurate nor entirely satisfactory method.

The first step is to average the lengths of the two 3-inch lines, which would give us two lines of 3-inch hose each 300 feet long.

Then average the engine pressures, giving us an engine pressure at engines No. 1 and No. 2 of 180 pounds.

Solve for nozzle pressure, using Underwriters' formula.

First, however, we must deduct from the effective engine pressure the back pressure in the deck gun, created by the nine foot elevation of nozzle. 9 x .434 = 3.9, or approximately 4 pounds back pressure.

180 — 4 = 176 pounds effective engine pressure.

The value of K for 2 parallel lines of three-inch hose siamesed into a 1½-inch nozzle is .051.

L, which is the number of 50 foot lengths of hose in the line, equals 300 divided by 50, or 6.

Then N.P. = E.P. ÷ (1.1 + KL)
= 176 ÷ (1.1 + .051 x 6)
= 176 ÷ (1.1 + .306) = 176 ÷ 1.406, or 125 pounds approximately.

Preventing Frozen Hydrants

To the Editor:

Kindly advise me in regards to surface water entering fire hydrants through the drip valve, and filling some of the hydrants with water from one foot to three feet inside the valve. Of course in the winter the hydrant becomes frozen.

We have had a number of fire hydrants freezing up this winter. I have thawed them out but I am unable to pump all the water out of the hydrant, as it runs in from the outside as fast as we pump it out. In these hydrants I have put from one to two gallons of alcohol to keep them from freezing.

Do you think it is advisable to have these drip holes plugged in the bottom of the hydrants to prevent surface water from entering the hydrant? Any other information you can give me in regard to this will be appreciated. M. G. G.

Answer: A careful check should be made to ascertain if the water is backing up into the hydrant through the base of the hydrant, or if the cause is due to a depression in the ground level.

Where the trouble is due to defective installation, it is necessary to dig down to the hydrant valve and place a quantity of crushed rock below the drip valve opening to improve the drainage away from the hydrant. Very often the most accessible or proper place at which to install a hydrant is at a grade level below that of the surrounding country. At such points ground water will drain back to the area about the hydrant and will eventually back up into the hydrant barrel. For such conditions there is no correction other than to plug the drain valve opening. This will prevent the ground water from backing up into the valve. It will also make it necessary for a fireman to pump out each hydrant after the hydrant has been used during periods of cold weather.

This appears to be the general practice by Water and Fire Departments throughout the country.

Relay Layout

To the Editor:

Will you answer the following problem?

A hydrant with unlimited supply has a pressure of 20 pounds. Attached to this hydrant is a 350-gallon pump from which extends 1,200 feet 2½-inch hose to a 750-gallon pump. From the 750-gallon pump extends 2,200 feet 2½-inch hose to a 1,000-gallon pump. From the 1,000-gallon pump extends 200 feet 2½-inch hose on which is attached a play pipe with 1⅛-inch outlet. What pressure must each pump maintain to give 50 pounds pressure at the tip and can pumpers be hooked up to better advantage? G. J.

Answer: The problem as given is not practical with the engines placed as indicated.

For clarity in explanation, we will identify the engines and lines of hose as follows:

350-gallon pumper—engine number 1; 750-gallon pumper—engine number 2; 1,000-gallon pumper—engine number 3.

Hose layout between engines 1 and 2, A; hose layout between engines 2 and 3, B; hose layout from engine 3 to nozzle, C.

With 1⅛-inch nozzle at 50 pounds pressure, the discharge will be 265 gallons per minute approximately.

The friction loss per 100 feet of 2½-inch hose carrying this quantity of water will be approximately 18 pounds (per 100 feet). Thus the friction loss from engine number 3 to nozzle will be 36 pounds; friction loss in B, 22 x 18 or 396 pounds.

Friction loss in A, 12 x 18, or 216 pounds.

Allowing 10 pounds pressure at the end of the hose line for furnishing the next engine we get the engine pressure at engine number 1 as 216 plus 10 or 226 pounds. A 350-gallon pumper cannot deliver 265 gallons per minute at this pressure.

Engine pressure at engine number 2 would be 396 plus 10 or 406 pounds. A 750-gallon pumper cannot deliver 265 gallons per minute at 406 pounds.

As a matter of fact, if we check up the total pressures required for overcoming friction losses and delivering water to the engines as well as giving 50 nozzle pressures we find that the total pressure which will have to be created by the engines would be 648 plus 50 plus 20 or 718.

The three pumpers could be expected to produce respectively 120 pounds, 250 pounds and 250 pounds which, together with 10 additional (beyond 10 pounds needed to feed line) from the hydrant would give the total available pressure of 630. It is evident from this that the three engines, plus the hydrant, could not create the necessary pressure to overcome friction loss and produce 50 pounds at the nozzle.

The only alternative is to assume a smaller pressure at the nozzle. Forty pounds will therefore be assumed.

With 40 pounds nozzle pressure the discharge is 237 gallons per minute and the friction loss is 14 pounds per 100 feet of hose approximately.

Engine number 3 operating at 250 pounds, can easily

pump through 1,400 feet of hose and give 40 pounds nozzle pressure with a little to spare.

Engine number 2, operating at 250 pounds can deliver the necessary flow to overcome the friction loss in 1,700 feet of hose, and give enough pressure to feed engine number 3. Then the length of layout will be 3,600 minus 1,400 minus 1,700 or 500 feet.

Engine number 1 at 120 pounds can easily pump 237 gallons per minute through 500 feet of hose and have sufficient residual pressure to feed engine number 2. This is the layout we would suggest.

CORRESPONDENCE

Credit to Whom Credit Is Due

To the Editor:

How encouraging it is to read the latest statistics on the subject of fire losses after the years of earnest struggle on the part of Fire Chiefs and their organizations to stem the rising tide and the steady advance of the element which has been our lifelong enemy; to see at last that the trend of events has turned that advance into a retreat. It would seem that they have met the enemy and at last have conquered. The victory is all the more sweet when they can look back over the battle-ground and consider the lone fight they have been waging with little or no appreciation on the part of the people whom they are striving to serve; when they stop to reflect how often their plans and their efforts have been hamstrung by corruption, greed, envy and ignorance on the part of the very people who are enjoying the fruits of their uphill fight.

How often worthy and capable Chiefs—under the guise of economy—have been deprived of the privilege of attending the sessions of the International Association of Fire Chiefs and kindred organizations—the very organizations which have been the bulwarks, the backbone and base of supplies in the way of knowledge and information where the Chiefs may come together and through the exchange of ideas coordinate their efforts for the common good.

Among practical fire fighters it has become common knowledge that every step in the advance of improved methods of control and prevention, every advanced idea in improvements making for greater utility and greater efficiency in the equipment they use, has had its inception in the mind of some practical fireman. Usually these valuable ideas have either been given to or have been usurped by the manufacturers who, in the final development and distribution, have reaped the monetary benefits which naturally accrue.

The Fire Chiefs, through constant contact, aided by the master minds of their mechanics, have been able to lay their finger upon the weak points in every piece of equipment with which they operate. To the Fire Chiefs of this country and to their organized associations is due the credit for the high standard of efficiency attained by the present day Fire Departments in this country.

One particular instance which often comes to my mind is the case of Al Webb, to whom the world owes a lasting debt of gratitude for bringing out the first motor pumping engine, which consisted of a second-hand Thomas Flier chassis, upon which he mounted a rotary gear pump. Compared with the modern pumper of the present day, it was a rather crude affair, but it did the work. Then what followed?

The seed had been sown and not Al Webb, but the manufacturers gathered the harvest. If I remember correctly he was not a regular fireman, but a fire fan, who spent much of his time around the St. Louis department and no doubt much of his inspiration was drawn from his contact with the firemen of that day. I remember quite clearly the demonstrations he gave at the convention in Grand Rapids, Mich., back in 1909. He had driven the machine under it own power from St. Louis to Grand Rapids.

Considering the foregoing indisputable facts, it constitutes an achievement of which the Fire Chiefs and their organized associations may well feel proud.

CHARLES W. RINGER,
Ex-Chief of Minneapolis, Minn.

Thomas Larkin, retired Chief of Battalion, New York Fire Department, died on February 16. For many years he was chief instructor at the Drill School. He had a wide acquaintance among officers of other departments who attended the New York Fire College.

I. A. F. C. CONVENTION MILWAUKEE, WIS., AUG. 21-24

Chief Peter Steinkellner, of Milwaukee, Wis., has designated August 21 to 24, as the dates for the 62nd Annual Convention of the International Association of Fire Chiefs. The selection of the exact date was left by the Board of Directors to the convenience of the Chief. The Schroeder Hotel has been decided upon as the headquarters.

CHIEF R. L. SMITH, PITTSBURGH, FORCED OUT BY POLITICIANS

Ends 33 Years' Service, of Which 8 Were as Chief—Fire Loss Reduced to Lowest in City's History—Replaced by Former Hoseman

RICHARD L. SMITH, Chief of the Pittsburgh, Pa., Fire Department for eight years and a member of the service for thirty-three years, was forced to resign, effective March 1, as the result of a change in the ruling political party. He is succeeded by John Heinz, who was dismissed as hoseman from the Fire Bureau in 1932.

Ex-Chief R. L. Smith

Chief Smith enjoys a national reputation as a firefighter. He was President in 1932-33 of the International Association of Fire Chiefs. During his service as Chief he succeeded in reducing the per capita fire losses of his city to a marked degree. Last year the loss was reduced fifty per cent over the previous year's figure and it is now sixty-four cents per capita.

Many of the city's industrial and business leaders opposed the change. In commenting on Chief Smith's dismissal, the Pittsburgh *Post-Gazette* stated editorially:

"Mayor McNair violated a sound principle and disappointed many of his well-wishers when he removed Chief Richard L. Smith of the Bureau of Fire for mere considerations of political patronage.

"The question of the fitness of John Heinz, a former hoseman and defeated candidate for sheriff in the recent campaign, does not enter into the case. It seems not to have been mentioned at all, just as the generally admitted efficient record of Chief Smith was ignored. So far as the record of the change is concerned, fitness had absolutely nothing to do with the matter. The political patronage represented by the post was everything.

"The public certainly was satisfied with Chief Smith, under whose regime the per capita fire loss in the city had been coming down, being in the five-year period prior to 1933 the lowest in the country among cities of comparable size. As referred to, the Mayor also has shown no dissatisfaction with Mr. Smith's record as a fire-fighter and executive.

"No one pretends to say that the Fire Bureau has been free of political interference in the past, but it is not disputed that for years, under Chief Smith, the administration of the Bureau was largely viewed as non-political. It was passed over without mention while politics in the police administration was being severely and justly arraigned."

John Heinz, the new Chief, has served ten years as President of the City Firemen's Protective Association, the local firemen's union. He has a contest pending before the Civil Service Commission and claims that according to civil service rules, he should not have been dismissed as hoseman in 1932. He was one of several men discharged by the previous mayor as an economy move. Last year he ran as Democratic candidate for the office of Sheriff but was defeated.

WHAT'S BURNING

THE following list includes fires of $50,000 loss and over in the United States and Canada, for the month of February, 1934. These figures, compiled from the telegraphic reports are based on estimates made at the time, and are subject to later investigation and consequent revision. Taken as a whole, however, they are an approximately correct view of the losses incurred. The figures represent loss in thousands of dollars.

Month Ending February 28	Loss in Thousands of Dollars
Fall River, Mass.—Merchants Mill and other property	400
Wassau, Wis.—Factory of Geo. Silbernagel & Sons	60
Danbury, Conn.—Church of Christ destroyed	50
Springfield, Vt.—Business property destroyed	50
New York, N. Y.—Home of C. L. Tiffany, 43 Park Ave	80
Farmington, Mo.—High school bldg. destroyed	50
Georgetown, Ill.—Hotel and general store destroyed	80
Peoria Heights, Ill.—Pabst brewery damaged	125
Salt Lake City, Utah—Property of Utah Co-operative Hatchery	70
Newport, R. I.—Bryer Exchange building destroyed	25
International Falls, Minn.—Saw mill of Int'l Lumber Co	200
Manistee, Mich.—Yards of Manistee & Northeastern R. R.	100
Salem, Mass.—Crombie Street Congregational Church	60
Kansas City, Kan.—Plant of Twin City Lumber Co. destroyed	25
Hamtramck, Mich.—Several business establishments damaged	80
Vincent, Ala.—Business district partially destroyed	80
Port Chester, N. Y.—Business and residential property	160
Swoyerville, Pa.—Holy Trinity Roman Catholic Church	65
Kansas City, Kan.—Two bldgs. of Carswell Mfg. Co., damaged	150
Chicago, Ill.—Several tank cars of Chicago & Northwestern R. R.	50
Bellmawr, N. J.—Bellmawr Hotel destroyed	65
Frank, Alta.—Roundhouse of Canadian Pacific Railway	50
Flushing, L. I., N. Y.—Abramson department store damaged	250
Harborton, Va.—Business and residential property	50
Flint, Mich.—Waterston store and adj. property	50
Anderson, Ind.—Hotel and other business property	300
Orange, N. J.—Adelphia Hotel damaged	70
Paulsboro, N. J.—Main plant of Sandura Co., adj. property	1,200
So. Porcupine, Ont.—Ever-Ready Garage and 28 automobiles	50
Shenandoah, Pa.—Business block owned by Citizens Bldg. & Loan Ass'n.	50
Terre Alta, W. Va.—Business and apartment property	50
So. Green, Conn.—Main Street business property	50
Atlantic City, N. J.—Parkway Apartments damaged	100
Cohoes, N. Y.—Property of Cohoes Rolling Mill	65
Detroit, Mich.—St. Joachim's Catholic Church destroyed	125
Nashville, Tenn.—First Baptist Church damaged	125
Elizabeth City, N. C.—Office building damaged	80
College Point, N. Y.—Greenhouses and other property, 128th St.	125
Meriden, Conn.—Edward Miller Mansion destroyed	150
Lynchburg, Va.—Business property on Main Street damaged	150
Minersville, Pa.—St. George's Ukrainian Orthodox Church destroyed	70
Catskill, N. Y.—Business and apartment property, Main St	65
Sodus, N. Y.—Property of G. R. Mills, Sodus Point	100
Burlington, Iowa—Building of Sickels Laundry destroyed	80
North Bay, Ont.—Business section damaged	80
Kankakee, Ill.—Store and office bldg., downtown section	80
Rock Island, Ill.—Longfellow school destroyed	50
Springfield, Ill.—State arsenal building destroyed	700
Westbrook, Me.—McMellan block destroyed	70
Spring City, Pa.—Business property	100
Worcester, Mass.—Business property at Harding and Cherry Sts.	50
Texarkana, Ark.—Ice vault of Southern Utilities Co	80
Lawrence, Kan.—Fraternity House at Uni. of Kansas	50
Fredonia, N. Y.—Factory of Gervas Canning Co	80
Valatie, N. Y.—Liepshultz dept. store, adj. property	50
Pembroke, Mass.—Property of E. H. Clipp Rubber Co	65
Detroit, Mich.—Vacant building of Murray Body Corp	150
Hull, Mass.—Several cottages and garages, Beach Ave	50
Meridian, Miss.—Whse. of Kimbrell Ruffer Lumber Co	125
Riverside, Tex.—Sylvania Avenue business property	50
Chicago, Ill.—Old Frolics Cafe destroyed	80
Sheldon, Iowa—Business building damaged	80
Seminole, Okla.—Refinery of Carter Oil Co. destroyed	3,500
Short Hills, N. J.—Red Stone Inn, Knollwood Rd	65
Great Neck, L. I., N. Y.—Business structure destroyed	50
Vincentown, N. J.—Brown Hotel and adj. property	50
Folly Beach, S. C.—Property of Senator J. C. Long	50
Berwick, Pa.—Palace Theatre bldg. destroyed	50
Worcester, Mass.—Bldg. of Worcester Storage Co. destroyed	80
Highlands, N. J.—Business and residential property	50
Bedford, Ohio—Center Building, destroyed	50
Delaware, Ohio—City Hall destroyed	250
Center Sandwich, N. H.—Business and residential property	100
Springfield, Mass.—Whse. of Home Products Co. destroyed	50
Neptune, N. J.—Plant of Lewis Lumber Co	80
Chicago, Ill.—Business property at 18-20 West Lake St	50
Charlotte, N. C.—Plant of J. J. Morton Stone Contracting Co	80
Chicago, Ill.—Shop of General American Tank Car Corp	50
Cudahy, Wis.—Business and apartment property	50
Wrightsville Beach, N. C.—Oceanic Hotel and 100 cottages	400

January Fire Losses Are Lower

Fire losses in the United States for January were 21.22 per cent lower than the figures for the month of January, 1933, according to totals reported by the National Board of Fire Underwriters. The January, 1934, losses are $28,002,583 or a decrease of $7,544,982 over the figures given for the previous January.

A 600-gallon pumper has been placed in service at Madison, Wis. It replaces one that has been in use since 1915.

5-STORY VACANT COTTON MILL DESTROYED AT FALL RIVER

Aid Rushed From Nearby Cities to Fight General Alarm Fire Started During Zero Weather—Chief Sullivan Averts Conflagration

By Harry Belknap

FALL RIVER, Mass., called outside aid to assist in fighting a serious fire on January 29 which originated in the Big Merchants' Cotton Mill, vacant for several years, and not guarded by a watchman. The flames raged through the long five-story mill and, fanned by a forty-mile gale, spread to nearby structures. Flying embers ignited a large frame tenement block some distance away.

One life was lost, several firemen were injured, eight buildings were destroyed or badly damaged, and a loss estimated at $200,000 resulted from the fire which began at 9 a. m. of a bitterly cold and windy day.

Besides the mill, the property involved in the fire consisted of a paper supply house, a grain company and a wholesale grocery warehouse, a 2-story frame building used as a beauty shop and dwelling, a 3-story tenement, and a tire shop which was reduced to ruins when one of the walls of the mill fell upon it. The fire area was bounded by Bedford and Pleasant Streets and by Thirteenth and Fifteenth Streets.

A man was caught by a falling wall while assisting in removing goods from the tire shop and was instantly killed.

Ruins of Cotton Mill Fire at Fall River, Mass.

A Fall River hoseman fell from a ladder and was seriously injured. Several other firemen sustained minor injuries and many suffered from frostbite in the near-zero temperature.

Chief Jeremiah F. Sullivan, of the Fall River Fire Department, was in charge at the fire and it was due to his skillful handling of the situation that a threatened conflagration was prevented. Realizing the seriousness of the blaze under prevailing weather conditions, he ordered a general alarm and summoned aid from cities and towns within a 25-mile radius.

Apparatus responded from Bristol, Brockton, East Providence, Freetown, Glen Farms, Newport, New Bedford,

Response to Merchants Mill Fire, January 29, 1934

Companies	No. Men	No. Pieces	Feet of Hose Used	No. Lines	Hours Pumped	Gallons of Gas Used	Quarts of Oil Used
Bristol	..	..	....	..	....	..	..
Brockton	9	2	700	4	2:30	61	7
E. Providence	15	1	1200	3	3:..	33	..
Freetown	4	1	....	..	....	2	2
Glen Farms	9	1	....	..	....	5	1
Newport	12	1	450	2	4:..	25	..
New Bedford	20	1	800	3	4:45	..	..
Providence	18	2	2000	5	3:18	37	8
Somerset	16	2	150	1	:30	8	..
Swansea	15	1	550	2	3:..	12	1
Taunton	9	1	700	2	4:..	30	2
Tiverton	15	1	600	2	2:30	20	..
Warren	8	1	800	2	3:..	25	3
Westport	18	1	450	2	3:..	12	1
Fall River	163	18	12,250	24	77:35	304	64

Providence, Somerset, Swansea, Taunton, Tiverton, Warren, and Westport. The Fall River department had 18 pieces of apparatus and 163 men at the scene and laid 12,250 feet of hose.

It is thought that the fire in the mill was caused by tramps who built a bonfire in the structure to keep warm. An ordinance has now been filed with the Fall River city council to require watchmen for all empty mill properties.

The accompanying table, furnished by courtesy of Chief Sullivan, shows the companies at the fire, number of firemen, hose laid, and hours of service rendered by the motor pumping engines.

HARRY BELKNAP.

Jacksonville Fights 4-Alarm Fire

Fire of undetermined origin started on the top untenanted floors of a four-story building, Jacksonville, Fla., at 1:45 p. m. on February 8. The building was in the heart of the business section.

The first alarm brought two engine and two truck companies, two high pressure hose wagons and a fire boat.

Four-Alarm Fire at Jacksonville, Fla.

When Deputy Chief George E. Hare arrived, he immediately ordered a fourth alarm. This brought out six additional companies and one additional ladder in command of Assistant Chief J. B. Chancey. Later Chief W. Q. Dowling arrived and took command.

Six streams were placed in front of the building, three were laid through an alley to the rear and taken to the top of an adjacent building by means of fire escapes and ladders, and one line was brought to the rear. Three lines from the fire boat were led to the rear through an arcade. Three high pressure lines of 175 pounds pressure were used, while 130 pounds pressure were maintained on the smaller lines.

Eighty officers and men operated eight engine companies, three ladder companies, two hose wagons, the fire boat and the high pressure system. The department used 8,000 feet of 2½-inch hose, 2,000 feet of 3-inch hose and 310 feet of ladders. The all-out signal was transmitted at 4:55 p. m.

D. G. AID.

Codes for Private Alarm Boxes

Special codes for boxes in buildings from which an alarm may be sent to the Fire Department, are now in force in New York, in accordance with a general order of Commissioner John J. McElligott. Each number consists of three parts—the preliminary signal, the number of the street or dummy box nearest to the building in which the box is located, and a terminal number to designate the building.

One or several cards are provided for each street or dummy box having special building fire alarm boxes associated with it. These cards list the number and location of the nearest street or dummy box, the terminal numbers assigned to all buildings associated with the street or dummy box, the location of each building for which a terminal number is assigned, the fire alarm company to furnish the alarm service and the type of service provided, a note as to whether the box is within the high pressure zone or on the border line, companies and Chiefs assigned to respond, and date of issue of card. On the reverse of some cards are instructions governing special or unusual conditions.

To each special building box alarm transmitted, the order directs that at least one engine company, one ladder company and one Chief of Battalion shall respond.

New Jersey Fire Losses Increase

Fire losses in the state of New Jersey for the month of February were $2,050,000, the highest for that month during a five-year period. In February, 1933, the losses were about $800,000. Losses the past month were increased by heavy dwelling house damages and four hotel claims.

Church Fire Threatens Business Area

Fire of undetermined origin destroyed the First Church of Christ in the heart of the business section of Danbury, Conn., on February 4, causing loss estimated at $50,000 and injuring three members of the Danbury Fire Department. Three alarms were sounded for the fire, which for a time threatened the entire business section of that city. The First Church of Christ was a wooden building and was ready fuel for the flames.

Extra calls for additional fire fighting units brought out the entire Fire Department of Danbury along with several volunteer companies. The first alarm was received at headquarters at 5:56 p.m. When Acting Chief John H. Ireland arrived on the scene, he immediately ordered a second alarm which was sounded at 6 p.m. A third alarm at 6:17 p.m. brought out all permanent companies.

While the church fire was at its height firemen were called to the clothing store of Thomas F. McHugh & Sons, 195 Main Street, near the church, where a blaze of undetermined origin had been discovered. Police and Fire Department officials say that there was no connection with the two fires and state police from the barracks at Ridgefield are investigating the origin.

The church fire, according to Acting Chief Ireland, started in the northeast side of the dining room in the basement of the church. The furnace is located in this part of the building. All of the sidewalls of the church, which was of frame construction throughout, were left standing with the exception of part of the front, which fell outward. The wooden tower, about seventy feet in height, also remains standing. The First Church of Christ was erected in 1892. Church officials are planning to erect a new stone edifice.

Ruins of the Church of Christ, Danbury, Conn.

THOMAS F. MAGNER.

WHAT THE FIRE COLLEGE TEACHES THE MEMBERS OF A FIRE DEPARTMENT

Wide Variety of Knowledge That Must Form Part of a Modern Fire Fighter's Education, Imparted by the School

By Don C. Sowers
Secretary-Treasurer, Colorado Municipal League

THE Annual Fire College is a cooperative undertaking sponsored by the Colorado State Firemen's Association and the Colorado Municipal League and participated in by a number of other organizations, including the Denver Fire Department, U. S. Bureau of Mines, National Board of Fire Underwriters, and the University of Colorado.

The fireman of today must be specially trained for his job because of the vast amount of information and technical skill required to be a successful fireman. An efficient fireman needs training just the same as any other occupation or profession requires specialized knowledge.

New methods of fire fighting are constantly being evolved as new fire hazards develop. The fireman must keep up-to-date to protect his own life as well as to effectively safeguard lives and property. For example, the new procedure for salvaging the building contents from water damage reduces greatly the losses due to water and smoke.

Wonderful improvements have been made in fire-fighting equipment and the modern fireman must possess a thorough knowledge of present day triple combination pumpers, automatic sprinkler systems, foam systems, alarm systems, chemical extinguishers and smoke masks.

In addition, he must be thoroughly trained in rescue, first aid work and resuscitation.

The following is an analysis of the fireman's job and indicates the wide variety of subjects concerning which he must have special training.

I. FIRE FIGHTING.

1. Care of apparatus, quarters, equipment, buildings and grounds.
2. Care of hydrants.
3. Receipt and transmission of alarms.
4. Laying hose lines.
5. Use of ladders.
6. Ventilating buildings on fire.
7. Operating hose and equipment, using stream of water to control or extinguish fire.
8. Use of chemicals and auxiliary equipment.
9. Covering exposures.
10. Overhauling structures and contents, after fires are under control, to prevent rekindling and leave in safe condition.
11. Salvage to protect from water damage.
12. Administering first aid on the job or in the community.
13. Rescue work.
14. Fire investigation.
15. Making forcible entry.
16. Driving apparatus.
17. Operating pumping engines.
18. Acting as relief officer.
19. Demolishing operations.

II. FIRE PREVENTION AND PROTECTION.

1. Inspection of buildings and plants.
2. Inspection of auxiliary building and plant equipment for fire extinguishing.
3. Inspection of private dwellings.
4. Details to public assemblies.
5. Meeting the public.

(Excerpts from a paper read before the Third Annual Fire College of the Colorado State Firemen's Association.)

Eight Die in N. Y. Tenement Fire

More than thirty pieces of apparatus called by three alarms responded to fight a fire in a five-story old-law tenement in the east side of New York City, which claimed the lives of five children and three adults. Firemen handicapped by bitterly cold weather, worked for two hours before the fire was considered under control.

Fire Marshal Thomas P. Brophy believes that the fire was caused by an overheated flue. Those who escaped from this fire owe their lives to a terrier which awakened the occupants by barking and then lost its life in the fire.

Flames spread from the basement to the stairway in the center of the building, ascended to upper floors, and mushroomed out. After the third alarm, Chief J. J. McElligott responded and took charge of the fire-fighting force.

Texaco Cartoons Ready

The first of the Texaco Fire Chief Cartoons has been released. As indicated by the illustration herewith, which is

a reproduction from the 12 x 12-inch original, each cartoon bears the autograph of "Chief" Ed Wynn.

Members of the fire service may secure copies of these cartoons without cost by writing to The Texas Company, Room 1801, 135 East 42nd Street, New York, N. Y.

McElligott Honored by Department

John J. McElligott, Commissioner of the New York Fire Department, was presented recently with a fully equipped office and with a beautiful official badge of the office of Fire Chief and Commissioner by officers and men of the department. The presentation was made by Deputy Fire Chief John J. McCarthy. In the official department order, Commissioner McElligott wrote:

"The fact that every member of the department participated in this manifestation, renders it all the more dear to me, because it brings out the thought that I too am still a fireman; somewhat more fortunate perhaps than my colleagues, but nevertheless, a member of the greatest organization of its kind in the world."

Chief Becker, of South Orange, Dead

Harry Becker, Chief of the South Orange, N. J., Fire Department and a member of the service for thirty-two years, died at his home on March 2 as the result of a stroke. He was sixty years old.

He was born in the village and was educated at local schools. In 1900 he joined the volunteer Fire Department, at a time when there were sixty men on the roster. Shortly after he joined, he was chosen Assistant Chief. After he had been with the volunteer department for about ten years, he resigned to return to the building business of his father as a partner. Mr. Becker was a pioneer in developing the residential section of the village.

The lure of fighting fires proved more attractive than the building business, and before long he was again active in the fire service. He took the Civil Service examination for Chief and was appointed to the full-time post on October 21, 1918. Chief Becker has held that position ever since.

Chief Becker, in his younger days, had a love for fine horses. Early residents remember him as the owner of fast horses. He leaves his widow, four sons, a daughter, three brothers, a sister, and his mother.

Steubenville, Ohio, is seeking the installation of windshields on three pieces of fire apparatus. Two members of the department suffered from frozen faces while answering an alarm in sub-zero weather.

THE PART VENTILATION PLAYS IN THE SCIENCE OF FIRE FIGHTING

Properly Understood and Carried Out, It Is the Very Backbone of Fire Control, But Its Study Must Be Comprehensive

By J. W. Just

Engineer, Western Actuarial Bureau, Chicago, Ill.

THE dictionary defines "ventilation" as "Supplying with fresh air." A few years ago that was the only definition, but now there is another—the Fire Department definition, if you please. This new definition is "the removal of dangerous or disagreeable smoke and/or gases and the replacement of the same with fresh air."

A very few years ago had you said ventilation to a Chief you would have been shot at sunrise—or even before—because all ventilation meant to him was "draft," and draft meant more work and more loss. The hazards to the firemen were accepted as a matter of course—a part of the disagreeable job of fighting fires.

Ventilation Backbone of Fire Fighting

Today, the modern Chief takes an entirely different viewpoint. He has taken an absolute about face on the subject, and ventilation is the very backbone of his job of stopping fires. The fireman himself has also taken an about face because he has found that he can make his job a lot less disagreeable, and also remove much of the personal hazard that his predecessor was forced to accept as inevitable. Let us take a look at both the advantages and disadvantages of ventilation as a standard fire department practice. First, just what are the advantages? Let us enumerate some of them:

1. Prevention of back draft, or "smoke explosion." In opening the door or window in the lower floors of a smoke and gas filled building, oxygen is permitted to enter but gases are not permitted to escape. This is because the smoke and gas is lighter than air and rises to the highest point, while you have opened up your building *below* these gases. The addition of oxygen will soon bring this gas mixture to within the explosive range, and if some medium of ignition is present, an explosion will likely follow.

   If proper ventilation is practiced by opening up *above* the fire, these gases are permitted to escape and pressures are reduced to below the danger point. The incoming fresh air from below, then, instead of mixing, tends to force the smoke and gases from the building, thus eliminating almost entirely the danger of an explosion.
2. Ventilation permits you to locate the seat of the fire promptly. This is something that is virtually impossible in a smoke filled building, and, patently, is an essential to prompt extinguishment.
3. Ventilation renders the building livable for firemen and thus facilitates prompt search of the premises with possible rescue activities.
4. Ventilation reduces the possibility of excessive water damage, as fire is more promptly located and extinguished.
5. Ventilation reduces unnecessary smoke damage in sections not otherwise involved.
6. It permits of prompt and effective salvage operations.
7. It shortens the actual work time on a fire, thus permitting fire companies to return to quarters and get back into service more promptly.
8. Ventilation reduces the hazard of having the fire-fighting force handicapped by asphyxiation, sickness or injuries in its personnel.
9. It removes the greatest source of unpleasantness, grief and fear from the fireman's job—the battle with smoke and nauseating gases.
10. And, by accomplishing all of the foregoing, ventilation increases public confidence in the Fire Department and helps materially to solve the increasingly important problem of "Fire Department Public Relations."

The Drawback of Criticism

We have now outlined ten advantages and more could undoubtedly be added to the list. So, we will see just what disadvantages we can find.

In so far as we can discover, there is only one drawback, and that is not a legitimate one to list here, because it lies well within the province of the Fire Department to eliminate it. However, let us look at it for a moment:

1. Criticism.

The practice of ventilation is bound to bring some criticism, from either one of two sources. First, from people who are not at all familiar with Fire Department problems and who, therefore, cannot see any relation between a smoldering basement fire and a hole in the roof, several stories above. This can be eliminated to a great extent by the Fire Department if it will take the public more into its confidence. This can be done through contacts at public gathering, through the newspapers and by frequent public Fire Department demonstrations.

Second, criticism due to unexpected, unpleasant, or disastrous results due to improper ventilation. This can be largely eliminated by proper training; however, we must always remember that mistakes and errors of judgment will occur occasionally.

Working Problems of Ventilation

The actual working problems of ventilation are such as to concern themselves with the individual buildings. But first let us see just what the requirements are in order that a fire department may accomplish an effective and safe job of ventilation.

1. Good Fire Department discipline. Firemen must be trained and disciplined to work together, and to do certain tasks with a minimum of supervision. There must be team work between the ladder detail doing the ventilating and the engine company laying lines, in order that the building will not be opened before lines are laid and charged, and all necessary preparations made to fight fire when it shows.
2. A thorough knowledge of the building and all items that may enter into the problem. For instance, the Fire Department should have a thorough knowledge of the construction of the building; covering such items as wall construction, floor construction, roof construction, skylights, penthouses, and whether or not there is a blind attic. The type, location and protection of vertical openings. Horizontal wall openings and the protection of same. Also, the location and type of partitions, and all other structural features that would have a bearing upon the spread of fire or gases.
3. A reasonably fair knowledge of the type of occupancy and the nature of the contents, whether of a fast burning or a smoldering nature. Also whether or not there is anything in the building of any explosive nature or that will produce toxic gases in any quantity.
4. A first hand knowledge of exposures and the contents of exposing building. This includes information as to wall construction, roof construction, parapets, wall openings, exposed penthouses, etc.
5. A thorough training in the use of fire department tools so that any job of ventilation will present a workmanlike appearance, and not look as though dynamite had been used to make the necessary opening.

Ventilating a Residential Fire

The question is frequently raised as to the necessity for ventilating a residential fire. The answer simply is this: That wherever the fire is not in evidence, and the building is heavily charged with smoke, ventilation is not only desirable but highly advisable. Inversely, if the fire itself is in evidence, it is rarely ever necessary to start ventilation immediately, however, it is generally necessary to follow up with ventilation to prevent excessive smoke damage, to facilitate salvage operation, and to be sure that the fire has been entirely extinguished. The point I am trying to make clear at this point is that ventilation is not necessary to the actual location or extinguishment of the fire, but it is a highly desirable function in conjunction with the various other necessary operations.

Three Outstanding Warnings in Ventilation

The three outstanding warnings that should be stressed in connection with ventilation are:

1. That ventilation should *never* be accomplished until lines are laid, charged and ready for any emergency.
2. That ventilation should not be practiced where it jeopardizes exposed property, until adequate steps have been taken to protect such property.
3. That a Fire Department should always be ready and willing to meet every criticism with a full and complete explanation of their acts, even to the extent of acknowledging their errors of judgment, should such errors have been made.

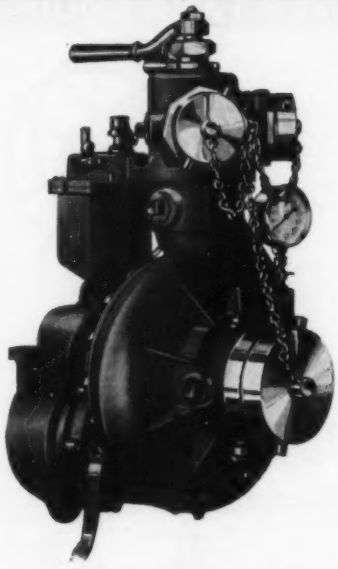
To sum up the entire subject in a few words, no Fire Department can fight fires intelligently or effectively without practicing ventilation. Furthermore, no department can practice ventilation with reasonable success without preceding their fire fighting with thorough inspections of the properties under their jurisdiction.

Thorough inspections, with the knowledge gained thereby, coupled with good judgment in its application, will make ventilation the keystone of successful fire fighting in any modern, properly equipped fire department.

(Excerpts from a talk before the Fire Department Instructors' Conference, at St. Louis, Mo.)

Conshohocken, Pa., has housed a Hale 750-gallon pumper in the No. 2 fire station.

Minerva, Ohio, has not had a fire loss in 1933. During the year it had three fire alarms but in each case the loss was insignificant.



All ball bearings and gears in a Barton Pump are much heavier than used in any chassis; lubrication positive and automatic.

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Adequate protection, if you use a Barton Centrifugal Fire Pump, does not entail a large expenditure.

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Barton Fire Pumps handle clean or dirty water! They are automatically primed! Sizes range up to 500-gallon, including pumps which have passed the Underwriters' 12-hour Tests. Write today for FREE Circular giving complete information. AMERICAN STEAM PUMP COMPANY, Battle Creek, Michigan.

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FIRE DEPARTMENTS CHANGE TO BOOSTER TANK EQUIPMENT

Alert Fire Chiefs Know That Booster Tanks Bring New Effectiveness to Fire Trucks at Small Cost

The most important recent development in fire fighting methods is the replacement of chemical tanks with BOOSTER TANKS. Thinking Fire Chiefs now recognize that light weight trucks carrying 100 to 200 gallons, with Booster Pump, can arrive and extinguish 80% to 90% of all fires! BEFORE BIG APPARATUS COULD ARRIVE THE FIRE IS OUT! With their speed and quick action efficiency light trucks extinguish 90% of all fires with High Pressure streams discharging ONLY 15 to 20 GALLONS PER MINUTE through 1-inch rubber hose with a ¼-inch nozzle tip. This Champion Booster Pump, however, has a capacity of 75 GALLONS PER MINUTE through a ½-inch nozzle. Usually discharge pressures vary from 100 lbs. to 200 lbs., depending upon the size nozzle used. Heavy ½-inch nozzle streams carry 125 feet horizontally and 50 to 60 feet vertically—to roofs of 3 and 4-story buildings.

NEW DARLEY CHAMPION BOOSTER FIRE PUMP

Simplicity of design has been combined with effective results in the Darley Champion. No valves, springs, or complicated mechanisms to cause trouble.

The pump is of the rotary type, mounted across the chassis under or back of driver's seat. It has only two moving parts, and the fact that both these parts are self-supporting means that the upkeep is practically negligible. The two moving parts, the rotor and idler, are made of BRONZE, insuring long life. The pump casing is made of a fine grey iron.

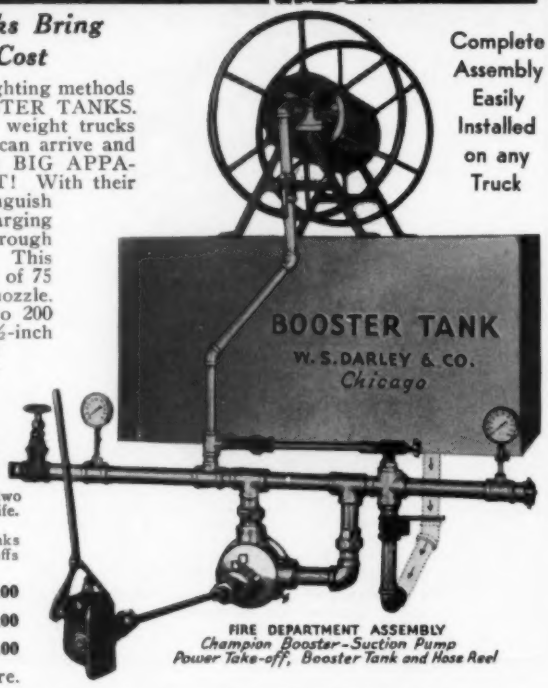
This assembly is easily installed on any old or new truck. Booster tanks correctly designed with filling troughs. Reels hold 200 feet hose. Power take-offs for any chassis. Parts sold separately.

Booster Outfit—all complete with 100 gallon tank only **$269.00**

Booster Outfit—all complete with 200 gallon tank only **$319.00**

Booster Outfit—all complete with 300 gallon tank only **$349.00**

Prices are for Ford or Chevrolet; for other trucks slightly more.



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Fight fire the modern way! Spare your boys the danger of climbing over wet, slippery, icy roofs. Throw one packane of IMP on the burning embers of furnace, stove or fireplace and the chimney fire is out in a few seconds.

Fire Chiefs all over the country praise IMP even more than we do. Your community will be grateful to you for the ease and lightning rapidity with which you put out chimney fires with IMP. IMP, the greatest chimney cleaner and chimney fire extinguisher in the world, is used in the four corners of the earth. IMP has to be good for such popularity during its 35 years' experience.

IMP prevents and puts out chimney fires, saves fuel, gives more heat in the home.

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BENEFITS GAINED BY ESTABLISHING ANNUAL PHYSICAL EXAMINATIONS

Successful Experiment in the Establishment of a Medical Bureau in the Los Angeles Fire Department Results in Greater Efficiency

By Captain H. J. Griffin
Truck Company 28, Los Angeles, Cal., Fire Department

SOME few years ago a plan was suggested by the writer for physical examinations of all members of the department. Later through the constructive order of our Chief, Ralph J. Scott, the plan was put into effect by the forming of a Medical Records Bureau, having as its personnel, detailed members and permanent employees. A top floor of an Engine Company's quarters was equipped with an examination room, containing all the latest medical appliances for treatment of injuries and diseases. The bureau is headed by a licensed doctor.

Periodical examination of the entire body of each and every member of the department is made and charted for reference according to the medical profession. It is needless to say that many members have been found to be suffering from diseases unknown to them and after treatment have been returned to duty, thus saving lives. Had no such examination been made, they would have continued to suffer until the city would have to pension them, which cost would have been added to the tax payers.

Before any member can go on or off duty, he must present himself to the doctor, who issues to him a written order to the Chief or an officer to put the member on or off duty. Visits to member's homes are made to inquire if they are in need of care or are able to return to duty. In this way many who would not report, are watched and ordered to return to duty.

Room for Chiropractic Treatment

Adjoining the quarters described is a fully manned and equipped room for treatment of sprains, pains, colds, etc., by methods of chiropractors. Two licensed doctors are in attendance, who are detailed members of the department. Say a member has a bad cold or rheumatism, he informs an officer, who sends him to the office, where he is rubbed with medicine, put under infra ray lights, given treatment and returned to duty. Before the installation of this bureau, the result would have been that such a member would have been sent to the receiving hospital and probably ordered off duty, resulting in a loss of man power to the department. Many a member has been cured of neuritis, torn muscles, etc., by the bureau. A full treatment for colon irrigation is one of the appliances. To cite one instance, a strong young member fireman presented himself for examination. He had never been sick in his life. The doctor found this fine specimen of manhood suffering from a heart ailment, and diseases of the lungs. He was ordered off duty at once. The result was that his life was lengthened. Again, a member was injured at a fire. He reported to the doctor. A full chart of injury was filed away. Some years later, the same member claimed he was hurt on such an such a date, and applied for a pension. A search was made and it was found that he was not injured at that date. The facts were there, so ready disposition was made of the case.

Records Valuable in Pension Cases

Some years ago, before the start of the bureau, a certain member was kicked in the stomach by a horse while on duty. The injury was not of a serious nature, so no entry was made in the company journal. Years after the same member became sick and died. His widow filed for a pension, but no records of injury were available, so quite a lot of legal procedure was necessary. If the case had occurred at the present time, all that was necessary would be to search the files—no arguments would have resulted.

So we feel that in this city in the West, we have taken a step forward in forming this bureau, creating a saving to tax payers and saving lives of members of the department. Our Doctor Lax devotes his entire time to work in the department, and with the cooperation of us all, has established an office that would be a credit to any prominent physician.

If this article should help to create such a bureau in any Fire Department in the country, the writer feels that one more step has been taken to promote the health, happiness, and life of my brothers in blue.

Rhode Island Chiefs Enjoy Banquet

The annual banquet and installation of officers of the Fire Chiefs' Club of Rhode Island was held in the Narragansett Hotel, Providence, R. I., on February 15. Five hundred persons attended.

Chief Frank Charlesworth of the Providence Fire Department., President of the Club, was toastmaster. Lieut. Gov. Robert E. Quinn installed the officers. Gov. Green and Chief Selden R. Allen, President of the I. A. F. C., were speakers. During the evening music was provided by the Saylesville Fire Department Band and an orchestra from a local theatre. Over one hundred prizes, donated to the club, were awarded to holders of lucky numbers.

All officers elected at the January meeting were installed. Many state, city and town dignitaries were guests.

Maryland to Hold Short Course

A short course for volunteer firemen will be held at the University of Maryland, College Park, Md., September 4-6. It is sponsored by the Maryland State Firemen's Association and is under the direction of Dr. A. N. Johnson, Dean, College of Engineering.

Although attended mainly by members of volunteer fire companies, enrollments at the four previous annual schools have included both paid and volunteer firemen from neighboring states. A registration fee of one dollar per person is charged. Meals and dormitory accommodations may be obtained at the college at reasonable rates. Sherwood T. Brockwell, Raleigh N. C., is head instructor and he will be assisted by a staff of experienced teachers and lecturers. At the close of the course, attendance certificates will be awarded by the University of Maryland.

Further information regarding reservations and program may be obtained from Dean Johnson or T. W. Venemann, Chairman, Fire College Committee, Riverdale, Md.

Wrench Starts Ship Explosion

Fire originating in a most unusual way on the waterfront at Charleston, S. C., recently destroyed sixty feet of the Sinclair Refining Company's pier, seriously injured two men and caused the burning and sinking of the freight launch "Hero." Damage to the plant was $5,000. The Charleston Fire Department units were unable to render much assistance because of frozen water mains.

The "Hero" was taking on a cargo by loading drums of gasoline from a pipe line. A member of the crew was removing a bung from one of the drums with a monkey wrench. He dropped the wrench which struck steel and produced a spark. An explosion followed. The naval tug "Catawba" and the white-stack towboat "Cecelia" aided in fighting the fire, while a coastguard patrol boat kept guard to prevent the flaming freighter from drifting up the Cooper River to the Texas Oil Company's plant.

Two brothers, members of the "Hero" crew, were taken to the Roper Hospital suffering from second degree burns.

The fire was visible for many miles around Charleston.

D. G. SPENCER.

Providing the Breaks for Wooded Lands

During the progress of a brush fire at La Crescenta Hills, Cal., a tractor was used to make wider fire breaks in an attempt to cut off the advancing fire. Note how close the tractor is working to the burning brush.

POSITIONS WANTED

These advertisements are inserted without charge as a service offered by FIRE ENGINEERING to everyone in the fire field. Use it.

Position Wanted

Do you wish to employ a young engineer who has had four years of practical engineering experience in the fire alarm and police telegraph field? One who has a thorough knowledge of underground and aerial construction, central office apparatus, project engineering, survey work and diaphone and whistle plants. Address Box 720, c/o FIRE ENGINEERING, 24 W. 40th St., New York City.
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Position Wanted

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PROPOSED IMPROVEMENTS

Nashville, Tenn.—Board of Public Works adopted resolution to recommend to City Council the purchase of two fire engines and authorized an appropriation of $18,500 for that proposed from annual budget of fire department.

Woodstock, Vt.—A committee of 11 is studying advisability of purchase by town of a pumper for rural use. Matter will probably be one of the issues to be acted upon at the annual March meeting.

Weston, W. Va.—City council approved plans for new headquarters for the fire department.

Delhi, N. Y.—At special election the purchase of a fire truck for the Delhi rural fire district aproved. Estimated cost $6,000.

Dillsburg, Pa. — Borough council contemplating erection of new fire station, according to reports.

Erie, Pa.—Tentative plans for new fire station in southwestern section of city announced by Safety Director John C. Dundon.

CONVENTION DATES

March 10—WEST VIRGINIA STATE FIRE CHIEFS' ASSOCIATION. Special Meeting, Morgantown, W. Va. Secretary, C. J. Powell, Romney, W Va.

April—CONNECTICUT FIRE CHIEFS' CLUB. Next meeting, Norwich, Conn., exact date to be announced later. Secretary-Treasurer, D. B. Mercer, 108 Harrison St., New Haven, Conn.

April 5—INDUSTRIAL FIRE CHIEFS' CLUB OF DELAWARE. Next Meeting, Fire Headquarters, Wilmington, Del. Secretary, John Nurnberg, Bond Mfg. Co., Wilmington.

April 12-13—WASHINGTON STATE FIRE CHIEFS' ASSOCIATION. 3rd Annual Convention, Chehalis, Wash. Secretary, Capt. W. A. Gross, Olympia, Wash.

April 13—SOUTHWEST WASHINGTON FIREMEN'S ASSOCIATION. Annual Convention, Centralia, Wash.

May 9—DEL-MAR-VA VOLUNTEER FIREMEN'S ASSOCIATION, 5th Annual Convention, Lewis, Del. Secretary, Fred Brown. Minquadale, Del.

May 22-25—IOWA FIRE SCHOOL. 10th Annual School, Iowa State College, Ames. In charge—Prof. L. J. Murphy, Extension Engineer.

May 24—IOWA FIRE CHIEFS' ASSOCIATION. 6th Annual Convention, Ames, Ia. Secretary-Treasurer, Chief L. R. Morris, Ames, Ia.

May 28-30—NEW MEXICO STATE FIREMEN'S ASSOCIATION. 12th Annual Convention and Fire College, Roswell, N. M. Secretary-Treasurer, Theodore A. Roaenwald, Albuquerque, N. M.

June—NORTH DAKOTA STATE FIREMEN'S ASSOCIATION. 50th Annual Convention, Mandan, N. Dak. (Exact date to be decided later.) Secretary, H. L. Reade, Bismarck, N. D.

June—SOUTHERN CALIFORNIA FIRE CHIEFS' CLUB. Semi-Annual Meeting, Long Beach, Cal. Secretary-Treasurer, Chief Charles E. Smith, 702 State Bldg., Los Angeles, Cal.

June 2—TENNESSEE STATE FIREMEN'S ASSOCIATION. 4th Annual Convention, Columbia, Tenn. Secretary-Treasurer, Joe J. Martin, Fire Headquarters, Nashville, Tenn.

June 4-6—SOUTHWESTERN ASSOCIATION OF FIRE CHIEFS. 7th Annual Convention, San Antonio, Tex. Secretary-Treasurer, Chief J. E. Taplin, Blackwell, Okla.

June 12-13—MINNESOTA STATE FIRE DEPARTMENT ASSOCIATION. 62nd Annual Convention, Hibbing, Minn. Secretary, Fred Pfaender, New Ulm, Minn.

June 12-14—OHIO STATE FIRE CHIEFS' ASSOCIATION. 17th Annual Convention, Hotel Ohio, Youngstown, Ohio. Secretary-Treasurer, Chief Philip J. Harty, Youngstown Sheet and Tube Co., Youngstown, Ohio.

June 12-14—STATE FIREMEN'S AND FIRE MARSHALS ASSOCIATION OF TEXAS. 8th Annual Meeting, Mineral Wells, Tex. Secretary, Olin Culberson, Edna, Tex.

June 16—EASTERN ASSOCIATION OF FIRE CHIEFS. 7th Annual Convention, Albany, N. Y. (Probable date, subject to change.) Secretary, Chief F. E. Soule, Coatesville, Pa.

June 16—LEBANON COUNTY FIREMEN'S ASSOCIATION. 12th Annual Convention, Myerstown, Pa. Chief Fire Marshal, A. S. Stauffer, Palmyra, Pa.

June 19-22—ILLINOIS FIRE COLLEGE. 10th Annual Fire College, of Illinois Firemen's Association, University of Illinois, Urbana, Ill Director, Prof. L. H. Provine, University; Secretary, Assistant Chief Roy W. Alsip, Champaign, Ill., Fire Department.

June 20-21—INDIANA STATE FIRE CHIEFS' ASSOCIATION. Annual Convention, Terre Haute, Ind. Secretary, Archie McCabe, Muncie, Ind.

June 20-22—MARYLAND STATE FIREMEN'S ASSOCIATION. 42nd Annual Convention, Cambridge, Md. Secretary, George R. Lindsay, Hagerstown, Md.

June 26-29—NEW ENGLAND ASSOCIATION OF FIRE CHIEFS. 12th Annual Convention, Memorial Auditorium, Burlington, Vt. Secretary-Treasurer, Chief John W. O'Hearn, Watertown, Mass.; Chairman, Exhibit Committee, Chief Daniel B. Tierney, Arlington, Mass.

June 27—CENTRAL WESTERN (OHIO) FIREMEN'S ASSOCIATION. Annual Convention, Spencerville, Ohio. Roger O'Donnell, Covington, Ohio.

July—STATE ASSOCIATION OF FIRE CHIEFS OF MAINE. Quarterly Meeting. (Exact date not yet decided). Camden, Me. Secretary-Treasurer, Charles W. Bowker, South Paris, Me.

July 2—TEMISKAMING FIREMEN'S ASSOCIATION. Annual Tournament, Rouyn, Que., Can. Secretary-Treasurer, F. E. Thompson, Box 686, New Liskeard, Ont.

July 10-13—PROVINCE OF QUEBEC POLICE AND FIRE CHIEFS ASSOCIATION. 2nd Annual Convention, Hotel Chateau de Blois; Manufacturers' Exhibits at Armory, Three Rivers, Que. Secretary Treasurer, Robert N. O. Harrington, Chief Fire Dept., McColl Frontenac Oil Co., Ltd., P. O. Box Suite 8, Windsor Hotel, Montreal, Can.

July 16-19—MICHIGAN STATE FIREMEN'S ASSOCIATION. 60th Annual Convention, and 6th Annual Fire College, Manistique, Mich. Secretary-Treasurer, Charles V. Lane, Charlotte, Mich.

July 16-19—TEXAS FIREMEN'S TRAINING SCHOOL. 5th Annual School, A. & M. College of Texas, College Station, Tex. Director, H. R. Brayton, Box 119, College Station, Tex.

July 17-18—MARITIME FIRE CHIEFS' ASSOCIATION. 20th Annual Convention, Truro, N. S., Can. Secretary-Treasurer, K. J. MacRae, Capt. Salvage Corp., St. John, N. B.

July 19-21—MONTANA STATE FIREMEN'S ASSOCIATION. 43rd Annual Convention, Dillon, Mont. Secretary-Treasurer, D. E. Moser, Bozeman, Mont.

July 30-Aug. 2—FIRE SERVICE EXTENSION SCHOOL OF WEST VIRGINIA. 4th Annual School, West Virginia University, Morgantown, W. Va. Address, Secretary, W. Va. Fire Chiefs' Assn., Chief C. B. Powell, Romney, W. Va., or Prof. Lewis V. Carpenter, Director, School, University.

July 30-Aug. 2—WEST VIRGINIA FIRE CHIEFS' ASSOCIATION. 3rd Annual Meeting, West Virginia University, Morgantown, W. Va. Secretary, Chief C. B. Powell, Romney, W. Va.

Aug.—KENTUCKY STATE FIREMEN'S ASSOCIATION. 15th Annual Convention, Newport, Ky. (Exact date not decided.) Secretary, S. G. Rinde, 621 West Jefferson St., Louisville, Ky.

Aug.—MONTANA ANNUAL FIRE SCHOOL. 5th Annual School, Bozeman, Mont., exact date not set but probably in August. Address, Secretary-Treasurer, Montana State Firemen's Association, D. E. Moser, Bozeman, Mont.

Aug.—VERMONT STATE FIREMEN'S ASSOCIATION. 44th Annual Convention, Vergennes, Vt. Secretary-Treasurer, J. Shank, Poultney, Vermont.

Aug.—VIRGINIA STATE FIREMEN'S ASSOCIATION. 48th Annual Convention, Suffolk, Va., second week in August. Secretary, O. W. Dabney, Staunton, Va.

Aug.—VIRGINIA FIRE CHIEFS' ASSOCIATION. 6th Annual Convention, probably second week in August, Suffolk, Va. Secretary-Treasurer, Chief E. H. Rouse, Orange, Va.

Aug. 7-9—WISCONSIN PAID FIREMEN'S ASSOCIATION. 27th Annual Convention, Rhinelander, Wis. Secretary-Treasurer, William H. Schultz, Sheboygan, Wis.

Aug. 17-18—CONNECTICUT STATE FIREMEN'S ASSOCIATION. 51st Annual Convention, Waterbury, Conn. (Tentative Date—exact date not yet decided.) Secretary, D. W. Harford, South Norwalk, Conn.

Aug. 20-22—KANSAS STATE ASSOCIATION OF FIRE CHIEFS and KANSAS STATE FIREMEN'S ASSOCIATION. Respectively 18th and 47th Annual Conventions. Secretary, Chief K. D. Doyle, Wamago, Kan. Regional Fire Schools will be held as follows: Emporia, May; Pratt, June, and Hays, October.

Aug. 21-24—FIREMEN'S ASSOCIATION OF THE STATE OF NEW YORK. 62nd Annual Convention, Geneva, N. Y. Secretary, Fred A. Davis, Fort Edward, N. Y.

Aug. 21-24—INTERNATIONAL ASSOCIATION OF FIRE CHIEFS. 62nd Annual Convention, Schroeder Hotel, Milwaukee, Wis. Secretary-Treasurer, Ex-Chief James J. Mulcahey, Yonkers, N. Y.; Chairman, Exhibit Committee, Chief Daniel B. Tierney, Arlington, Mass.

Aug. 22—MISSOURI VALLEY ASSOCIATION OF FIRE CHIEFS. Annual Convention, Schroeder Hotel, Milwaukee, Wis. (Meets second day of I. A. F. C. Convention). Secretary-Treasurer, Chief Ray Tiller, Waterloo, Ia.

Sept.—ARKANSAS STATE FIREMEN'S ASSOCIATION. 13th Annual Convention, Monticello, Ark. (Exact date to be decided later.) Secretary-Treasurer, H. D. Compton, Central Fire Station, Little Rock, Ark.

Sept. 4-6—MARYLAND SHORT COURSE FOR VOLUNTEER FIREMEN. 5th Annual Short Course, University of Maryland, College Park, Md. Dean A. N. Johnson, College of Engineering, University.

Sept. 17-20—CALIFORNIA STATE FIREMEN'S ASSOCIATION. 12th Annual Convention, Santa Cruz, Cal., Secretary-Treasurer, H. E. Strasser, 1171 Tenth Ave., San Diego, Cal.

Sept. 18-19—DELAWARE VOLUNTEER FIREMEN'S ASSOCIATION 14th Annual Convention, Harrington, Del. Secretary, Sam H. Carson, Dover, Del.

Sept. 18-19—IOWA FIREMEN'S ASSOCIATION. 57th Annual Convention, Creston, Ia. Secretary, Paul A. Soener, Independence, Ia.

Sept. 21-22—NEW JERSEY STATE FIREMEN'S ASSOCIATION. 57th Annual Convention, Atlantic City, N. J. (Tentative date. Exact date to be decided later.) Secretary, Evan F. Beners, Moorestown, N. J.

Oct. 1—TEMISKAMING FIREMEN'S ASSOCIATION. 19th Annual Convention, Rouyn, Que., Can. Secretary-Treasurer, F. E. Thompson, Box 686, New Liskeard, Ont.

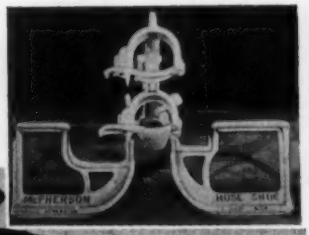
Oct. 2-4—PENNSYLVANIA STATE FIREMEN'S ASSOCIATION. 55th Annual Convention, Hotel Neff, Sunbury, Pa. Secretary, Charles E. Clark, Wayne, Pa.

Oct. 16-18—ILLINOIS STATE FIREMEN'S ASSOCIATION. 48th Annual Convention, Granite City, Ill. Secretary, Assistant Chief Roy W. Alsip, Fire Department, Champaign, Ill.

Mc PHERSON FIRE HOSE SHOE

Takes the Place of Expensive Turret Nozzles!

Playing big streams is child's play wherever this Hose Shoe is used. Instantly attached or detached while hose is under pressure. Stands absolutely alone—even on ice or hard pavements. **See one right away!**



THIS successful new device absolutely takes the back-breaking work out of handling lines under pressure. The big point is—it converts *back* pressure into *down* pressure and the result is the nozzle will stand by itself—literally on its own feet—without any backlash and this regardless of pressure.

Frankly, it will step up the efficiency of any department that has the good sense to get them and use them. They are a *tried* and *proven* device—not just another gadget but a real contribution to the science of fire fighting.

This is just a suggestion brief—why not be the first one in your locality to get the details on the McPherson Fire Hose Shoe? We'll be glad to mail them to you on request—no obligation, of course.

GENERAL APPARATUS CORP.
1928 EAST SEVENTH STREET, LOS ANGELES, CALIF.

AFTER all, a good badge is a sensible investment. Not everyone can wear a fireman's emblem of service. You men who have devoted your lives to saving life and property should be proud of your badge.

You will be if you wear a BRAXMAR BADGE. Over fifty-five years of experience goes into every badge you buy.

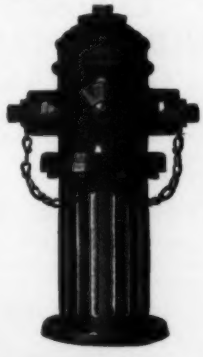
Catalog on request.

C. G. BRAXMAR CO., 242 West 55th Street, New York

BRAXMAR BADGES

Standard for Over Fifty Years

Here's why FIRE CHIEFS recommend



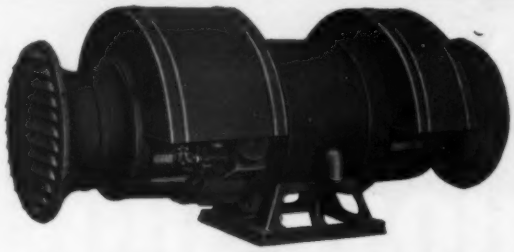
CRISPIN FIRE HYDRANTS

FIRE departments should demand hydrants especially designed for fire service. The CRISPIN hydrant was designed to help you fight fires more efficiently, Chief. Before you replace old hydrants or install new ones, we suggest you let us send you our folder which completely describes CRISPIN hydrants and just why you should recommend them for your city or town.

MULTIPLEX MFG. CO.
BERWICK, PA.
Offices: **405 Lexington Ave., N. Y. C.** ***Plant:*** **Berwick, Pa.**

Every driver knows that the best tires are the cheapest in the long run. The same is true with good old—

FABRIC
WAX AND PARA GUM TREATED
FIRE HOSE
Factory: SANDY HOOK, CONN.



QUICK, CLEAR, PENETRATING
A weatherproof code siren with all the carrying power you'll ever need. Prices or demonstration on request.
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STERLING SIREN FIRE ALARM CO., INC.
60 ALLEN STREET, ROCHESTER, N. Y.

HEWITT-GUTTA PERCHA
FIRE HOSE
A complete line, including
Wax Treated - Solid Multiple Woven
AND
Single and Double Jacket Hose
Manufactured by
HEWITT RUBBER CORPORATION
BUFFALO, N. Y.
"Territories Available"

Bi-Lateral Fire Hose

The one hose that does not require frequent replacements. Always reliable for fire service no matter how old, if the jackets are intact.
Lined with three rubber tubes, specifically guaranteed for six years.
BI-LATERAL FIRE HOSE CO.
15 Park Row, New York, N. Y.
20 N. Wacker Drive, Chicago, Ill.

COVER'S NOD and SHAKE GAS MASK
Carry It in Pocket. Slip on in a Jiffy. Positive Protection to Eyes Against Smoke. Safe in Fumes.
Price $48 per Dozen
Upon receipt of $4.00 one will be forwarded as a sample, postpaid.
H. S. COVER
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SOUTH BEND, IND.

COMFORT AND SECURITY
WITH THE
CAIRNS
LOW HEAD—CUSHION LINED
HELMET

COMFORTABLE AS YOUR OLD FELT HAT; WON'T SHAKE OFF
Never go to a fire without the protection of a good helmet. It may save your life.
Now is the time to start a new Fire Record Book. 3 sizes. 350-700-1400 alarms.
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444 LAFAYETTE STREET - Established 1836 - NEW YORK
HELMETS — CAPS — BADGES, RUBBER COATS, ETC.

JOHN H. CLAY, INC.
1320 Ridge Ave., Philadelphia, Pa.
Established 1864

DOOR SPRINGS
Complete Automatic Spring Outfits for Doors Opening In and Out. Used throughout the world. Once on the doors your door opening troubles cease. They last a lifetime. Send for Bulletins.

Valuable Information

All the manufacturers you will find represented in our advertising pages have interesting and valuable data about their equipment which is yours for the asking. When writing, be sure to mention FIRE ENGINEERING.

Ex-Chief Frank A. Jaynes Dead

Frank A. Jaynes who retired as head of the Rochester, N. Y., Fire Department in 1930, died at his home in Rochester on February 10 at the age of eighty.

The Late Ex-Chief F. A. Jaynes

He joined the service on January 1, 1876, as a minute man and after three years was made Captain. On November 1, 1893, he was appointed Battalion Chief and served at that post for about ten years. On April 1, 1903, he was promoted to Assistant Chief. The city abolished the rank of Assistant Chief on April 1, 1921, and Chief Jaynes was made Deputy Chief. He became Chief in 1922.

A medal from the Sisters of Charity for his part in fighting a fire in St. Mary's Hospital in the winter of 1901 was among his most prized possessions. At that time he was thrown from the roof of the hospital and fell on a truck. He received a fractured skull and was unconscious for nearly a week. He was unable to return to active duty for six months. Chief Jaynes narrowly escaped serious injury on several other occasions.

He is survived by his widow.

Club Honors Chief Fred A. Clark

A huge silver loving cup was presented to Chief Fred A. Clark, of the Attleboro, Mass., Fire Department, President of the Fire Chiefs' Club of Massachusetts, by members of the club at a meeting held in the Elks Hall in Attleboro on February 21. The Chief was also given a handsome sheepskin scroll bearing the signatures of all those present.

Mayor Stephen H. Foley, of Attleboro, presided at the luncheon and meeting. The speakers included William E. Sweeney, of the Attleboro Board of Fire Engineers; Chief Selden R. Allen, of Brookline, President of the International Association of Fire Chiefs; Chief Daniel B. Tierney, of Arlington, President of the New England Association of Fire Chiefs; Ex-Chief Daniel F. Sennott, Boston; Supt. Peter E. Walsh, of the Boston Protective Department; George O. Mansfield, Chief Fire Inspector, Massachusetts State Fire Marshal's office; Chief Edward F. Dahill, New Bedford; Chief Charles L. McCarthy, Worcester; Chief Ray D. Wells, Falmouth, who with Chief Dahill, made the presentation of the cup; Chief John W. O'Hearn, Watertown, Secretary of the New England Association of Fire Chiefs; Chief Albert C. Melendy, Nashua, N. H.; Chief Charles H. French, Manchester, N. H.; Chief William T. Happny, Concord, N. H.; First Assistant Chief Leonard Gould, Attleboro; and Roy Crandall, of the Attleboro *Sun*.

Ex-Chief Fred A. Leonard, of Taunton, introduced the new Taunton Chief, Edward F. Gorey. Charles C. Cain, editor of the Attleboro *Sun*, and Amos S. Blackinton distributed souvenirs presented by Attleboro jewelers.

The following new members were elected: Chief Clark C. Thorne, Millis, Mass.; Chief Henry C. McLaren, Westwood, Mass.; Chief Thomas F. Burke, Pittsfield, Mass.; Chief Irving C. Hammond, Westport, Mass.; Chief Ralph C. Robertson, North Attleboro, Mass.; Chief Edward F. Gorey, Taunton, Mass.; and Chief William J. Blair, Nantucket, Mass.

HARRY BELKNAP.

Word has just been received of the death a few weeks ago of William M. Shimp, who, for the past twenty years, headed the Cory-Patterson Manufacturing Company of Greenfield, Ohio, manufacturers of the Browder life saving net.

West Virginia To Have District Schools

West Virginia University will sponsor district fire schools of two days each. They will be held April 2-3 at Charleston; April 4-5 at Clarksburg; April 6-7 at Morgantown; April 9-10 at Martinsburg and April 12-13 at Wheeling.

In addition a fire service extension school will be held at the university, Morgantown, W. Va., July 30-August 2. Prof. Lewis V. Carpenter is director of the school. The Secretary of the short course is Chief C. P. Powell, Romney, W. Va.

Howard Story, Apparatus Salesman, Dead

Howard Story, for over forty years identified with fire apparatus and equipment sales in New Jersey, Pennsylvania and Maryland, died at his home in Asbury Park, N. J., on December 16 at the age of seventy-one. For almost a half century he served as sales representative and in his latter years he was Eastern Branch Manager of the Stutz Fire Engine Company. He retired from active service about six years ago.

Delaware, Ohio, City Hall Razed

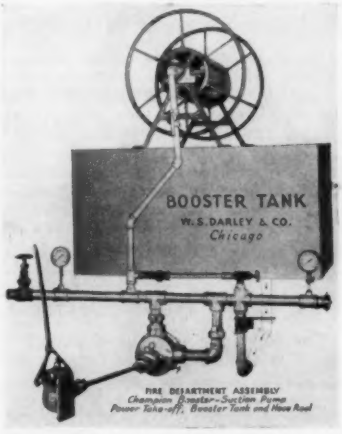
Fire and Police Departments of Delaware, Ohio, are without headquarters due to a fire which razed the City Hall on February 24, and destroyed all administration records of both departments. Two hoboes had been permitted to spend the night in jail and they discovered smoke seeping through the floor. The fire started in the police shooting range.

Firemen, who had just returned from fighting a minor blaze, found the entire basement of the City Hall involved. Flames spread rapidly through the wood interior and the blaze was soon beyond control. Efforts were then directed towards saving the nearby buildings. Firemen were hampered by poor water pressure. Two fire companies from Columbus were credited with preventing the spread of flames. During the twenty-mile drive to Delaware, there were many shifts of drivers on the Columbus apparatus as the intense cold numbed the hands of the drivers.

Damage was estimated at $200,000. It is said that the city will find it difficult to finance the construction of a new municipal building unless federal assistance is secured.

New Type of Booster Installation

A booster suction pump driven through a power take-off from the engine, and connected to a booster tank, is being marketed by W. S. Darley & Co., Chicago, Ill. It has the advantage of continuous operation after the booster tank has been emptied, because the suction can be connected to a hydrant or other source of water supply. The pump has a capacity of seventy-five gallons a minute at one hundred pounds pressure when operating with a ½-inch nozzle. With smaller tips, higher water pressures are secured.



FIRE DEPARTMENT ASSEMBLY
Champion Booster-Suction Pump
Power Take-off, Booster Tank and Hose Reel

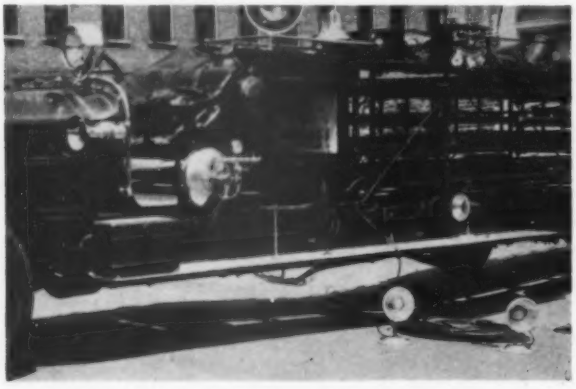
The installation is provided with relief and blow-off valves so that if a nozzle is shut off the pump will churn. The pump assembly weighs approximately one hundred pounds.

Fire losses in Shreveport, La., have been reduced sixty per cent over the 1932 figures. Calls decreased from 1,253 for 1932 to 776 for 1933. Chief S. J. Flores attributes this unusual reduction in fires to regular fire inspections. Salvage work has decreased the claims paid on contents from $105,360 for 1932 to $49,684 for the past year.

Handy Flood Lights for Fire Fighting

Small and inexpensive lighting units, which are especially applicable for fire apparatus equipped with electric generators for large projectors, have been developed by the General Electric Company, Schenectady, N. Y.

The units are small and are quickly adjustable to project the light beam in any direction. They have a stable base,



Florence, Ala., Ladder Truck Equipped with G-E Handy Floodlights

and during fire-fighting operations, the Handy Floodlights may be set up quickly in alleys, between buildings, in backyards or at other suitable locations.

The floodlighting of buildings has been proven invaluable when working at night fires, and lighting units are part of the equipment of many of the larger departments. The new units are not as cumbersome as the large searchlights and stands that are part of the special floodlighting apparatus now in service, and therefore may be moved about more quickly and with more ease.

The Fire Department of Florence, Ala., has equipped a ladder truck with three of the Handy Floodlight units.

Assistant Chief Brenner Killed by Crash

Henry Brenner, Assistant Chief, Memphis, Tenn., Fire Department, died as the result of a collision between the Chief's car and Pumper No. 2 on February 16. The Chief's driver later assumed the blame saying that he was driving over the wrong route to the fire. One firemen died, one was critically injured, and three others were hurt in the same crash.

Chief Brenner was removed to a hospital but he never rallied. He remained unconscious for eighteen hours. He joined the department in 1898 and was a resident of the city for forty-five years. He was Assistant Chief since his promotion from Captain in November, 1926.

He was a strong advocate of military discipline in the Fire Department and always insisted that his men and equipment be kept in perfect condition.

Chief Brenner is survived by his widow, two sons and two daughters. Among the honorary pallbearers was the entire A shift of the department.

Newly Elected Chiefs

The following have been elected to head the Fire Departments in their respective municipalities:

Lemoore, Cal.—Carl Poindexter.
Wyoming, Ia.—W. N. Morse.
Buckley, Wash.—John Boyle.
Ferndale, Cal.—V. E. Ericksen.
Morning Sun, Ia.—E. E. Cararoon.
Oakland, Ia.—H. O. Davis.
Salem, Neb.—Fred Corn.
Albany, Wis.—C. M. Dixon.
Benton, Wis.—George E. Alderson.

After more than two years without promotions or appointments, the Boston Fire Department recently appointed forty new privates and made four District Chiefs, fourteen Captains and ten Lieutenants to fill existing vacancies.

Roswell won first place and Raton, second, in the Fire Prevention week contest for the state of New Mexico. Roswell was one of the ninety-two towns and cities in the contest that had no fire loss during that week, and one of the eighty-one that had no fire loss the following week.

Daniel Addresses Fire Officers

Frank R. Daniel, Chief Engineer, Wisconsin Rating Bureau, was the guest of honor at the annual meeting of the Walworth County Fire Officers' Association held at Darien, Wis. He gave an instructive talk to the fire fighters.

Dr. C. V. Bachelle, Delavan Lake Fire Department, was elected President; Herman O. Robb, Sharon, Vice-President; H. A. Heyer, Darien, Secretary-Treasurer.

The fifty officers present enjoyed a luncheon and smoker following the regular meeting.

Schrom, Chief at Washington, D. C.

Charles E. Schrom, has been appointed Chief Engineer, Washington, D. C., Fire Department to fill the vacancy caused by the death of Chief George S. Watson who died of a heart attack at the Graduate Hospital, Philadelphia, recently.

Chief Schrom joined the department March 8, 1892, and resigned four months later. He again joined on January 1, 1893. He was promoted to Assistant Foreman on March 1, 1896, and to Foreman on July 1, 1900. Advancement to Captain came on July 1, 1904, and to Battalion Chief Engineer on November 4, 1921.

He was awarded a ribbon decoration for his rescue work following the collapse of the roof at the Knickerbocker Theatre on January 28, 1922. Chief Schrom was appointed alternate chairman or member of the Fire Department Trial Board to serve in the absence of the regularly appointed Chairman or a member. He was named a member of the Policemen and Firemen's Retiring and Relief Board on January 4, 1927. On July 1, 1931, he was promoted to Deputy Chief Engineer.

He had an active part in maintaining order during the Hunger March of December, 1932. On August 22 of last year, Chief Schrom was appointed Chairman of the Fire Department Trial Board.

Texas Appoints Field Instructor

Chief G. F. Williams, of Winters, Tex., has been appointed Field Instructor of the Training School by an Advisory Board consisting of four members from the Texas Firemen's and Fire Marshals' Association and three members of the staff of the Texas A & M College.

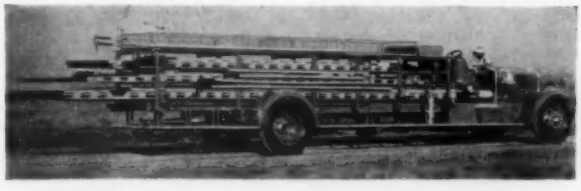
He is a Past-President of the Association. He will travel over the state and will conduct drills and schools of instruction with the volunteer departments. An automobile, in which are carried many department appliances and tools, is provided for his use.

In six weeks, Chief Williams has conducted thirty night drills in South Texas, attended by over 1,400 firemen.

Besides the field work and the annual meeting of the college, drill outlines are being mailed to the 487 departments in the state each quarter. These outlines serve to keep fresh the instruction given by the drillmasters from the larger departments during the school session. The outlines also help to standardize the work of all departments. Departments which attend the annual school and report their drill activities each quarter, receive a three per cent credit on the key rate in their city, granted by the Fire Insurance Commission.

The firemen's training school will be held at the Texas A & M College, College Station, July 16-19. Prof. H. R. Brayton, Box 119, College Station, is Director of the school.

Puyallup, Wash, has appointed a paid Chief at a salary of $125 a month.



City Service Truck Purchased by Jacksonville

A Mack city service truck, ordered by Chief W. O. Dowling, Jacksonville, Fla., has been delivered to that city. The apparatus carries 312 feet of trussed ladders, has four-wheel mechanical brakes, and a six-cylinder heavy duty motor.

WHEAT SPOTLIGHT

an **OFFICERS LIGHT** at **$20.00**

(Single Bulb Type)

Not just another lamp—but a very reliable necessity for every fire officer. Hundreds are now in daily use. Here are a few reasons why:

1. *Cheapest* to operate and maintain, because it is rechargeable.
2. *Portable* and *Practical*, because it is non-spillable and weighs only 87 ozs.
3. *Convenient* because its shape allows it to be carried in the hand or over the shoulder.
4. *Reliable* because fully charged it will always burn continuously for 5 to 6 hours.
5. *Easy* to maintain—is not taken apart to be charged—just push in the plug after using—and add a little water to the battery once a month.
6. Chrome Plate finish — Leather handle — Toggle switch — Simple Focusing Device.

KOEHLER MFG. CO.
MARLBORO, MASS.

save with **Shuredry** SALVAGE COVERS

We have been using Shuredry Covers for some time and I think they are one of the greatest things used in connection with the Fire Department. When I need any more it will be Shuredry Salvage Covers.

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CHIEF BEARD
Columbia, Tenn.

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FALSE ALARMS

OPINIONATED

There were many opinions back at the house how the fire should have been fought. Statement followed statement, without either faction making much headway.

"Well there are two sides to every question," remarked one.

Another quickly answered, "Yes, and there are two sides to a sheet of fly paper, but it makes a big difference to the fly which side he chooses."

You never hear of blind men joining nudist colonies but we don't see why not. They certainly ought to be able to feel their way around.

THREE DIMENSIONS

A drillmaster was teaching a group of rookies how to jump into a life net. The lesson had proceeded for some time and then he wished to see how much progress he had made.

He shouted to the group, "All men who have jumped, form in line here; all men who have not jumped, form over there; all men who have done neither, report to me."

The frost will soon be out of the ground and then the farmers and golfers can start their spring plowing.

WRONGED

There was a keen contest for the office of Fire Commissioner. Speeches became very personal, and charges were answered by countercharges. The two newspapers took sides, which added to the intensity of the campaign.

The manager of one candidate, called his attention to a statement in the newspaper of the rival faction.

"It says here, James, that you are illiterate."

"Illiterate," shouted the candidate for emphasis. "I'll have them know I was the second child in my family."

A girl is grown up when she finds out that Santa Claus isn't a man little girls write letters to—he's a man who writes letters to little girls.

BEST OF LUCK

The boys in the upstairs room knew that MacBeth was granted time off, but a relief man did not know the full facts of the case.

When asked, MacBeth explained, "I'm going to the hospital tomorrow for an operation."

"Good luck to you," said the newcomer, "I hope everything comes out all right."

Virgin wool comes from the sheep that can run the fastest.

OVERHAULING

A fireman, the first to enter the third floor of a hotel during a fire, was called to testify in a suit for damages on the grounds of negligence.

The lawyer for the plaintiff asked, "Will you please testify as to the condition of the person when you saw her."

He stated, "When I saw her, her entire body showed signs of burns."

Mae West is credited with establishing the principle that a curve is the most interesting line between two points.

PROPERLY CLASSED

The young lady owed much to the young firemen who was injured while working at the fire at which she was rescued. To show her appreciation, she decided to call at the hospital. On her way she entered a book shop and said to the clerk:

"I want some nice book for a patient."

"Something religious?" asked the clerk.

"Er—no," stammered the lady. "He's convalescent."

Ask a girl to talk, if she's talkative; ask a girl to walk, if she's walkative; ask a girl to dance, it's permissible; but never ask to kiss her, if she's kissable.

FULL CAPACITY

During the annual pork and sauerkraut dinner of the department, the boys were very much surprised to see Charley get up while the evening was still young.

"Where you going?" all asked.

He took a grip on the chair and said, "I'm tanked. I go home now."

Girls of yesterday were bustle bound.

—Drawing by "Art" Espey

"Hide your butts, girls! Here comes a fireman!"

FREE INFORMATION

JUST run down the list of equipment and jot down on the coupon below the numbers that indicate the equipment in which you are interested. Then fill out rest of the coupon and mail it to us.

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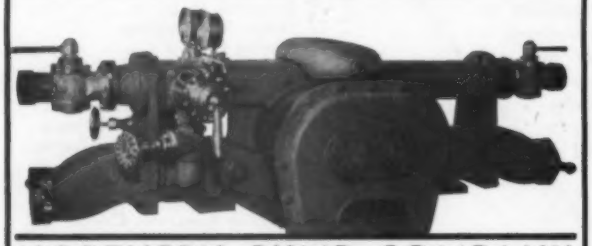

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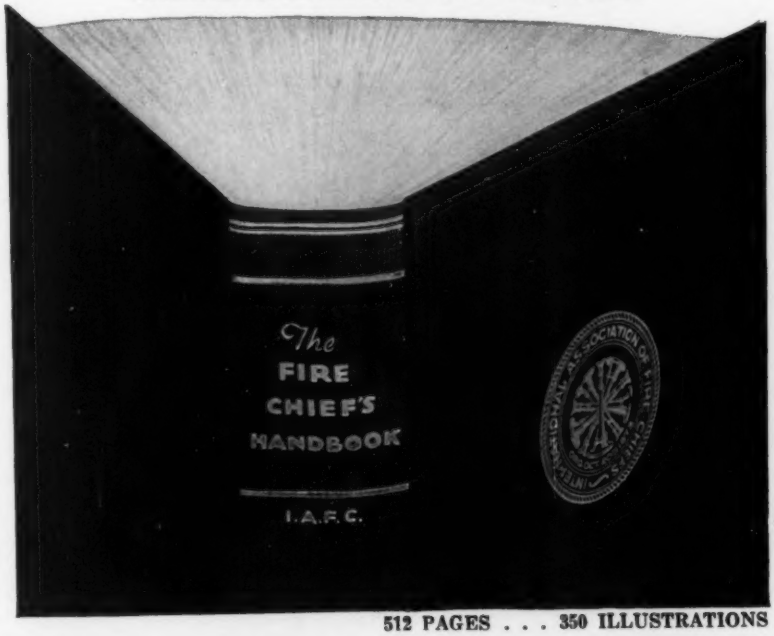

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